The Builder.

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THE antiquities of the City of London are so little known to many of its inhabitants, notwithstanding numerous published accounts of them, that we think it cannot be otherwise than useful and entertaining to follow the "British Archæological Association" in their examination of them, which they have wisely begun. Notwithstanding bad weather, they mustered strongly on the 14th, in *Barber Surgeon's Hall*, Monkwell-street, and found all the archives and curious plate of the company spread out for their examination. Many of our readers have noticed the curiously carved 17th century doorway, guarded by a projecting hood, belonging to the Hall. To remind them of it we re-insert a sketch given in one of our early volumes, where, too, there is some account of the building, and its contents.* The very names of half the streets in the city are full of information, but we are all in too much hurry to remember it. They are repeated by rote and lose their significance. Dwell for an instant, for example, on the name of the street we are in, Monkwell-street,—*monk's well*,—and it will be found to lead us to an Abbot's house, and a hermitage, the crypt of which remains and was visited on this occasion, as we shall presently have to tell;—and a very curious crypt it is. Amongst the plate on the table was the silver gilt cup and cover, with bells, presented to the company by King Henry VIII.; and we remembered what Pepys had written, 1622-3:—"To Chyrurgeons' Hall, where we had a fine dinner and good learned company, many doctors of physique, and we used with extraordinary great respect. Among other observables, we drank the King's health out of a gilt cup given by King Henry VIII. to this company, with bells hanging at it, which every man is to ring by shaking after he hath drank up the whole cup." The company sold this cup with other plate in the 17th century to build their hall, but, as Mr. Pettigrew pointed out in a paper read by him to the meeting in the court-room, it was purchased by Edward Arris (master of the company in 1651), whose portrait is in the court-room, and presented by him again to the company. They have also a handsome cup with pendant acorns, presented by Charles II.; and four ancient crowns, worn by the master and wardens on their installation. The latter, as we understand, were recovered from cobwebs and obscurity about thirty years ago, when Mr. Anthony Lyon was master.

The paper to which we have alluded was a history of the Barber-Surgeons' Company, preceded by an inquiry into the history of "Barbery and Surgery" from the earliest times. It was an exceedingly appropriate and interesting disquisition, and will doubtless be printed in full. We shall avail ourselves of it chiefly for some information respecting the building and pictures, but will first make two or three notes on the subject of which it more particularly treats. The conjunction of two such opposite functions as shaving and surgery may appear to us in the present day as a remarkable incongruity, but recourse to the records of former times enables us to perceive the reasons which led to the union, especially when we remember that the operations of both are manual. In the twelfth century the ignorance and cupidity of the monks, who chiefly practised medicine, caused the Lateran Council to forbid their attendance at the bedside of the sick other than as ministers of religion, and in 1139 to prohibit the regular clergy in like manner; the result of which canon was to throw the composition of medicines and the performance of surgical operations into the hands of the servants of the priests or others.

Charlemagne established many schools in various places where medicine was taught, and amongst the rules at that time laid down was this, that the physician could not claim his fee *when the patient died*. The first surgeon regularly appointed to attend an English monarch, so far as the reader could ascertain, was Richard de Wy, in 1360. For a long time there was a great scarcity of properly taught surgeons; but many, still acting as surgeons and barbers, came over from France, and, in 1461-2, Edward IV. granted a patent of incorporation to the company of which we have been speaking. At this time men allowed their beards to grow, and shaving was an operation of rare performance unless for surgical purposes, and there is reason to believe the surgeons of this period practised as barbers. In the 32nd of Henry VIII. an act was passed to incorporate the barbers and surgeons into one body; and they were not separated till the 18th of George II. (1745). Guy's Hospital, due to the beneficence of a bookseller of that name, was established in 1721, St. George's in 1734, the London in 1740, and the Middlesex in 1745. We must not, however, longer follow this part of the subject. The original theatre at Barber-Surgeons' Hall, which escaped the fire of London, was built by Inigo Jones, and is called by Walpole one of the best of his works. It is described by Hatton, in his "New View of London," as of "an elliptical form and commodiously fitted up with four degrees of seats of cedar wood, and adorned with the figures of the seven liberal sciences and the twelve signs of the zodiac; also containing the skeleton of an ostrich put up by Dr. Hobbs, 1682, with a bust of King Charles I." and other matters. "The theatre was finished with an elliptical cupola, and in the reign of George I. the hall and theatre were repaired and beautified under the direction and at the expense of Lord Burlington, in compliment to the architect." It was pulled down about the year 1782, the materials sold, and three houses erected on its site. It is remarkable that there exists no engraving of it; but Mr. Peter Cunningham acquaints us that "the design of the Chirurgeons' Theatre," an oval, dated 1636, is preserved in the portfolio of Jones's drawings at Worcester College, Oxford.*

The minute of the Court ordering the erection of the theatre is dated Feb. 11, 1635, and provides that it shall be "executed under his Majesty's surveyor" (Inigo Jones). A previous minute, dated Sept. 27, 1626, orders that the governors "shall take advice of workmen concerning the new building of their parlour and lecture-house," to proceed as shall seem meet. We must suppose that the part of this relating to the theatre was allowed to remain in abeyance.

The hall was built after the fire, and has no point of interest beyond this, that the semicircular end of it occupies one of the bastions of the ancient London wall,—or, what is more likely, occupies the site of it.

The Court Room has an elaborate ceiling of elegant design, in the centre of which an octagonal cupola was introduced in 1733. Mr. Pettigrew attributed this ceiling to Inigo Jones; but this we should doubt, unless there be actual evidence of the fact. In this room there is a portrait of Inigo, attributed to Vandyke, and a plaster bust: we did not notice, when there, if the latter be the one referred to in the following minute:—

"August 9, 1750.—The master informed the Court that Mr. Gheys, statuary, had attended the governors at the last monthly meeting, and requested to have the skeleton that used to hang up in the theatre, for which he offered to present this company with some ornamental figure in plaster of Paris, which request being now taken into consideration,—It is ordered that the said skeleton be delivered to the said Mr. Gheys, on his presenting the company with the head of Inigo Jones, fixed upon a pedestal, and bronzed, and with such inscription as the governors shall direct."

Holbein's celebrated picture here, representing Henry VIII. presenting to the Barber Surgeons the charter by which they were incorporated in 1541, is a wonderful piece of painting, full of character,—although not at this time exactly as it left the painter's studio. It was engraved by Baron; and the minutes of the company have the following entry concerning the occurrence:—

"27th August, 1734.—Copper plate of Holbein's picture ordered of Mr. Baron, for 150 guineas,—50 guineas on finishing the drawing, 50 guineas on delivery of the plate, and 50 guineas on 100 prints."

As an evidence of the estimation in which the picture was held by contemporaries, Mr. Pettigrew quoted a letter from King James to the company which runs thus:—

"James R.—Trusty and wellbeloved, we greet you well. Whereas we are informed of a table of painting in your hall, wherein is the picture of our predecessor of famous memory, King Henry VIII., together with divers of your company, *which being very like him, and well done*, we are desirous to have copied: wherefore our pleasure is that you presently deliver it unto this bearer, our wellbeloved servant Sir Lionel Cranfield, Knight, one of our masters of requests, whom we have commanded to receive it of you, and to see it with all expedition copied, and redelivered safely; and so we bid you farewell.—Given at our court at Newmarket the 13th day of January, 1617."

It is interesting to know that the original cartoons from which this picture was painted are in existence. The portraits were taken on four portions of paper, which have luckily fallen into the possession of the Royal College of Surgeons, and have been put together and made to form a picture.

We must away, however, to St. James's

* Vol. III. p. 19. Under the arms in the doorway is the date 1671, with the words *De Prescientia Dei*.

* Life of Inigo Jones, printed for the Shakspeare Society, 1848, p. 34.

DOORWAY, BARBER SURGEONS' HALL.

"called in the wall neare Cripplegate," a cell anciently belonging to the abbot of Garandon. From the monks here, and a well belonging to them, the street took its name. This hermitage was purchased from King Edward VI. by William Lambe, who dying in 1577, gave it with other property, to the clothworkers, "to the intent they shall hire a minister to say divine service there." Mr. White read a brief paper on the history of the foundation, dating from Henry I., in the course of which he pointed out that the old building being decayed, it was pulled down in 1825, and a new chapel erected from the design of Mr. Angell. The crypt of the old building was left, and although interfered with by modern brickwork, is eminently deserving of a visit.* In the centre of this crypt is probably the well: the sound, on striking the ground, justifies the belief. Over it is a column, and on each side of the crypt, and in each angle, except at the north-west, is an attached column: from all these the ribs of the vaulting spring, and thus form four compartments. The columns are very short, the capitals peculiar in shape: the groining is semicircular, and is ornamented with a bold zigzag: the date of the crypt may be the beginning of the twelfth century. Mr. White first pointing out the importance which attached to Wells in London before the city was otherwise supplied with water, made a suggestion which is, at all events, very ingenious. Stow, he said, tells us the postern of Cripplegate was so called, long before the Conquest, of cripples begging there; but it occurred to him that the name might have been given from this being near to the *Crypt Well*, in which case there would be good reason to believe that the structure is of an older date than the Norman conquest; and he thought his view was strengthened by the fact, that the Anglo-Saxon w so much resembled p that it might be taken for that letter. We may mention that this gate was anciently called *Porta Contractorum:* still this would not be conclusive against the theory.

The next place visited was the Church of St. Giles, by the gate in question, which was founded as early as 1090 by Alfune, the colleague of Rahere, who built the church of St. Bartholomew the Great, in Smithfield. It was burnt and restored in 1545, and now presents but a sad jumble of ancient and modern work. It has been recently "beautified" without much advantage beyond cleanliness. Here lie three famous Johns,—John Fox, John Speed, and John Milton. In the register this is the entry against the name of the first, "John ffox, householder, preachar," April 20, 1587. And against Milton's name appears the word "consumpcon."* Here, too, a memorable man was married, August 22nd, 1620; the register book thus records it:—"Oliver Crumwell and Elizabeth Bourch'."

Carpenters' Hall, one of the few ancient buildings in the City that escaped the Great Fire of 1666,—it did so narrowly,—was the last stopping place in the day's tour. It has been already so fully described in our pages, together with the curious and interesting wall paintings discovered there in 1845, that we need say nothing now about it.† The company's books and charters, of which, too, we have spoken,‡ are very curious. There is distinct notice of a guild of carpentry in 1421, but the earliest entry in the company's books is dated 1438, and commences thus:—"Jhû and hes moder dêr haue mercy on Croffton the carpen(ter) he zyffe zou this boke to all ye companye." We must not stay longer, however, amongst the old things of the City, and we can end with nothing better than the motto of the guild:—

Honour God.

TO THE LADIES OF ENGLAND AND THOSE UNLEARNED IN ARCHITECTURE.—We propose to commence, in an early number of THE BUILDER, and to continue until completed, a popular sketch of the history of architecture from the earliest times to the present day, in the shape of a series of Letters to a Lady, giving the characteristics and dates of the various styles, with occasional illustrations, references to existing examples, and brief notices of eminent architects structure-raisers. Our object will be to make these letters interesting as well as instructive, and to give a stock of useful knowledge in a pleasant form to some who would be otherwise deterred from acquiring it.

ARCHITECTURUS TO HIS SON.

THE LAMPS OF LEARNING AND TEACHING.

IN the questions of art, delineation, science, and building, we have overtaken the entire realm of our professional knowledge. The master of building,—first as artist, secondly as draughtsman, thirdly as mechanical constructor, and fourthly as practical supervisor,—this is the man of business designated an architect. Were he no more than this mere man of business, I should have no more to examine concerning him, except the last and universal question of housekeeping,—no other lamp to search out for your journey, my son, except the last lamp of making a living; but inasmuch as there is comprehended in this realm of his a certain province which among its fellows is distinct from all—subtle, refined, poetical, while its associates are but as arithmetic and tool-handling—we take him into a sanctuary where he must put off these his slippers at the door—a chamber where even Science and Philosophy do not come,—where Galileo and Newton, Bacon and Watt, may not enter at all; but where poor poets and painters and musicians and such like sit, in what grosser men deem to be visionary enthusiasm and selfdenial, as the administrators of Heaven's own beautiful in the world of men. He is in the sanctuary of ART, and there shine upon him new lamps.

The architect has now to look to two questions more: first, if he is to be a worthy artist,

* Malcolm, in *Londinium Redivivum*, says, erroneously, that no portion of the old building remains.

* Godwin's "London Churches," vol. i.
† See vol. iv. p. 87.
‡ See vol. vii. p. 121.

how he shall take up his art; and secondly, if he is to be a worthy artist, how he shall hand down his art;—first, as the follower of teachers who have gone before, how he shall so learn as to be a brother worthy of their fellowship; and secondly, as a predecessor of learners in his turn, how he shall so perform his part in the drama of progress as to become a master of honourable renown. These, then, are my lamps of Learning and Teaching, and their light is for the architect as artist alone.

I would not have you endeavour to believe that in architecture we have the noblest of arts; I am rather of opinion that it is one of a somewhat humble class. Poetry, as the *description* of all beautiful that words can reach, reaches from a picture of the little wayside flower to visions of the unseen mysteries of Heaven itself—dreams of the music of the seraphim and the very speech of Deity. Painting and statuary, as the *delineation* of all beautiful that is visible, overtake the whole of that exquisiteness with which is endowed all natural and human expression,—the nobleness of great men, the loveliness of woman, the grandeur of the storm, the freshness of the morning, the gloom of the grave, almost the splendour of the sun. Architecture being but the *decoration* of a manufacture, can claim no such excellence as either of these; and even music, more *sensual* (if I may so use the word) than intellectual, as I conceive it is, takes such a hold upon our sympathies, and is so entrancing, enthralling, electrical, magical, a thing, that I can scarcely refuse, if art is to be measured by enjoyment, to accord even to it a higher place than to any work of mere decoration, although it should be the noblest effort of the noblest decorative skill—"the Parthenon of Athens, the Pantheon of Rome, or the Minster of York."

I have here incidentally indicated in some manner the four departments in which, according to the constitution of our nature, art is developed; the *decorative* being the department which comprehends architecture. In other words, decorative art being the fine art or beauty-work of *manufacture*, building, as one branch of manufacture, originates architecture as its fine art or beauty-work. "Cottons" are another branch of manufacture, and the beauty-work of the printer's pattern-drawer is fine art no less. Dressmaking and tailoring are manufacture again, and their beauty-work fine art too. The plain truth goes farthest, my son, all the world over; the tailor at his cutting-table, and the *modiste* at hers, are own brother and sister to the architect over his drawing-board: and if those artists are sufficiently humble to give great precedence to the other, they might decide differently, if they knew better,—in so far that at no time have tailors and dressmakers acknowledged "the authority of antiquity," or advocated a "rigid adherence to the examples," except for fancy balls and foolery.

But do not imagine all this while that in architecture we have no better a thing than very common-place effort of the mind. If Michelangelo, as architect, is identified with, as it were, Messrs. Moses and Son, so is Milton with the "poets" whom those worthies "keep;" and the great Florentine, again, as painter and sculptor, with him who daubs a parrot on a tea-tray, or carves a hound's head on a gent's cane. Such is art; and it is its excellent mission that it not only soars with the loftiest intellect into the sky, but creeps with the humblest upon the humblest ground, to beautify and bless both high and low. And if in other arts there may be greater loftiness of aim, still in those whose province is but the decorative, the summit of endeavour is frequently by no means other than a most noble height; and in architecture, which is the grandest of all decorative arts (because building is the grandest of all manufactures), the summit of endeavour is never unworthy of noble minds, but offers a prize of very lofty pleasure and very honourable fame.

Thus, then, stands the position of the artist-architect,—second, certainly, but no more, to the highest artists, inasmuch as Michelangelo stooped a little, but very little, when he laid aside the pencil of the painter and the chisel of the statuary to be the master of the builder at St. Peter's. And such is the nature of architecture-art,—the highest art of the decorator,—perhaps so much the highest, in respect of the extensive and intricate knowledges it involves, and the costly, laborious, and noble works in which its principles operate, that all other arts of its class are left so far behind as to appear of inferior class, but for theoretical identity of fundamental purpose.

The man of business, following the long list of those who, as men of business, have gone before, needs but to acquire in the most efficient manner the mastership of his business, whereby to earn a creditable livelihood, and take the position, according to his capacity, of a meritorious member of society. By far the great majority of men in any sphere can attain to no more than this, and if a man attains to no less he does well. But the question with the artist is based on another foundation,—it commences with an entirely different idea. It is no such matter as business, or personal profit, or selling one's labour for a price. Every artist must attend to all this in his separate capacity of a man of business; for every one must look to the lamp of making a living, of necessity; but his artist's mission and art-fellowship, as a follower of those artists who have gone before, are a question of fascination and devotion. There is some element in the artist's mind which constrains him to own spontaneous and anxious allegiance to art; the hand that made him made him a priest of this mission (and the world would be a joyless world, I say, without such mission); it is not by choice of his, but by constraint, by fascination, by tie of nature, by spiritual patriotism. History records the living of a succession of these art-priests,—art the one aim of their living, and art their glory now that they are long dead. History records their names as a special and recognised priesthood, honoured among men; and time hands down their works among the world's treasures, long after their own poor hands have crumbled into dust, and long after the very traditions of their ordinary lives, their friends and enemies, their joys and sorrows, have been lost in oblivion. These men have, step by step, carried on all through the ages this increasing purpose,—the embodiment of those beautiful thoughts which are playing in the souls of men all the world through, the reflections of the beautiful things of Nature's teeming picture. It is surely an exquisite mission, this, of the artist, and men of the rudest and most sordid own it and honour it. How, then, shall the novice assume the vestment as a worthy follower of those who have gone before, and proceed to minister as a worthy priest of so excellent a mission?

Now I have been speaking of the *artist* without naming the *architect*, for I could scarcely venture to say all this of him specially. I could say it all of the poet, the painter, and even the musician, and meet universal sympathy with my earnestness; but to speak of the architect so would provoke the smile of derision, and I should be but called upon to include in my enthusiasm my artists the tailor and dressmaker as well. In fact, I should at once be met with the assertion that however truthfully I may be speaking of the poet, the painter, or the musician, the architect must be excluded entirely, having no more these lamps of Learning and Teaching to look to than the tailor has. And true it is with regard to the afflatus of the art-energy, that just as the great poet, or painter, or musician is always inspired with it as the essence of his vocation, so the great tailor has never any of it at all, for with him it would be but a travesty; while in the great architect the amount of it is seldom more than very little indeed. This is all true assuredly, and it is but evidence of the order of precedence of the arts,—first, the high arts, with poetry at the summit; and last the low arts, graduating down to such a thing as the beauty-work of the *modiste*, and even lower still, and midway the better arts of decoration, with architecture at their head. But I would have you know that the architect is not always devoid of this afflatus, but that many a one in the ages can be named whose life was devoted to the art-mission with a constancy which leaves the uninitiated to wonder how so much poetry could come out of building, and the initiated to admire the earnestness with which the depth of that poetry was fathomed.

The fine art architecture being the decorative art of building—the beauty-work of that one among the "manufactures" of our hands,—the principles of its administration are of course these—preliminarily, the principles of building-work itself, and then the principles of beautifying building-work, and the principles of ornamenting or enriching building-work; or the objects of the art are—first, to form or outline any given scientific features of building with grace and expression or emphasis intrinsically; secondly, to govern the origination of those very features with subjection to a desire for such grace and emphasis as themselves first principles; and, thirdly, to enhance the effect by appropriate embellishments, ornamentation, enrichment, extrinsically. The fundamentals of criticism and the fundamentals of composition are, therefore, first, the principles of *manufacture* (which govern all decorative arts, or arts of manufacture, but no others); and, secondly, those of *sense-beauty*, as I may call it (or that system of melody and harmony in forms, colours, and tones, which is the sole authority in music, and partially more or less in all decorative and delineative arts): and the only remaining fundamental of criticism and composition in art—the principles of *nature*—(which govern solely in poetry or descriptive art, jointly with those of sense-beauty, in the delineative, painting and sculpture, and not at all in music) does not enter into decorative art in any form, except inasmuch as delineative art, used in decorative ornament, must be subject to its own laws. Here, then, is the course of study for the artist-architect,—first, the principles of building; secondly, those of sense-beauty of form and colour; and, thirdly, those of nature, so far as delineative art is made an accessory to his decoration. Take these as the guiding stars of your endeavour, the roots of your fancy, the standards of your judgment: for as we sow we must reap, and these only are the seeds of art; all other system is fallacious, barren, and destructive. These are the principles which, from the infancy of building-beauty, the minds of the fathers in our fellowship have searched for and striven to embody in their works: the beginnings were small, very small; frequently has the course had to be recommenced; the deviations, and errors, and failures, have been numerous; the progress, compared with other progresses, has been slow; but the noble history of a noble art has flowed on all through the generations of the past, and it can be pleasurably traced, with but few gaps now, and these decreasing daily, and the names of its succession of kings are registered for our hero-worship, and for the admiration of enlightened man at large, although they and we are but architects and no more. And if we, as true followers in this fellowship, would take our place worthily, we must indoctrinate ourselves with their laws; and if we would hand down our mission to our followers in their turn we must preserve those laws intact. We must progress from their progression, and in the right line. And we must leave behind us a clear path for our sons to follow, to progress from our progression without a check. As men of business our duty is to look to ourselves; but as artists, it is our duty to look to our art.

Now the idea which seems to have been in late ages chiefly entertained on these questions of our learning and teaching is that we shall worship old doings and imitate them. And I hesitate not to say that the old doers of those old doings, if they could rise from the dust, or their spirits look down upon us from their hoary works, would feel less pride of flattery than shame and reproach. They would give us but little thanks for our honour and fidelity to themselves, and much upbraiding for our infidelity and dishonour to their and our art. A very bad system of learning and teaching is this. Its admirers cannot pretend that the fathers learned and taught so themselves,

except it be the old Romans, whom they avowedly despise for the very fact of their so doing. And how we can, with one breath, despise the system in others which with the next we openly advocate for ourselves, is more than I can find a ready reason for. And here let it be understood that I do not blame the Classicists of our time, and let the Gothicists go free, but almost the reverse; it is the entire principle of copying, following, imitating, adopting, adapting, or whatever form it takes for the occasion, which I denounce in every respect in which it is made a fundamental element of thought in architectural art, whether with reference to copying a certain design in whole or part, following a period, imitating a master, or adopting a style and adapting it (of necessity) to the requirements of a different age from its own. Answer me this question: why is it that we nowadays build in all manner of imitations—in all styles but our own?

The originator of this very singular system I designate, for want of an accepted name, the archæologian. It is not the archæologist, the honourable antiquary, at all. I am, so far, archæologist myself; my taste does not lead me to enthusiasm in respect of it,—it is not especially my mission,—but, of all discourse possible, "discourse on antiquity" that enlightened visiting of the past which gratifies one of the most interesting forms of educated curiosity in the human mind, is to me among the most entertaining and pleasurable of discourse. I am never at a loss in that best appreciation of archæology by which one can place himself in the very past itself,—not merely registering dry forms and facts as such, but reverting in fancy to the very scenes of old time themselves, and dreaming day-dreams of those that are gone, till they come forth from the tomb again, and walk and talk as men and women, with all their strange old-fashioned ways about them as they seem to us now, but with the same blood in their veins and the same light in their eyes, the same anxieties in their thoughts, and the same joys and sorrows, hopes and fears, in their lives, that we have. This is what I hold to be the enjoyment of archæology, and so do I enjoy the archæologist's discourse. But the discourse of the archæologian—the painstaking resurrection of minutiæ of fact as matter, not of curiosity for inquisitiveness, but of revelation and authority for present avail,—I will not use hard words, my son, but I will say that I deplore this exceedingly. Suppose, say I, that history were to become deranged in this manner, like archæology—that historians were to take to this resurrectionism, and delineate the actions of men and women of old, not for the gratification of enlightened curiosity, but for the use and authority of persons whose pride it was to copy, imitate, adopt, and adapt to themselves, the characters of these men and women of old—one "adopting" the idiosyncracy of Julius Cæsar, another that of Peter the Hermit, another that of Queen Elizabeth, another that of Tippoo Saib, another that of the poor high-priestess of Amen-Ra in the Mummy-room; and another that of Abraham, Isaac, or Jacob, Tiglathpileser, Robin Hood, Dr. Johnson, or the Caliph Omar, or whomsoever else might take his fancy,—suppose we were to walk about every day in all manner of guises, and perform all manner of appropriate action, according to these precedents of history,—where would it end? Suppose some of us were to become crazy with a resolve to "imitate" the politics, laws, and social institutions of some fashionable "period," and advocate a reversion bodily to the feudal system, and tournaments, and trial by ordeal, and ships like large nautilus-shells with cross-bowmen in them, and tough beef and ale for breakfast, with fresh rushes on the floor, how would the world receive our arguments? and where would they put us?

Archæology in architecture will be cultivated no less than now, when the present mistaken application of it has been long forgotten. I do not care to hesitate in predicting that its reign is now nearly over. It has reigned long—ever since the fourteenth century, more or less; and it has run through a great deal of matter in one way or another; there is not much left for it now to overtake, and therefore we may fairly look for the end, and hope for better days. The error originated in a very excusable manner, at the period of the general revival of ancient letters. Everything of the authentic classic Roman remains became eagerly sought for, anxiously studied, and adopted with filial confidence, — and the Roman architecture among the rest. The principle of copyism was introduced for perhaps the first time in the history of the world; and I say it was excusable, and all of us who appreciate the position of the time will excuse it, although it is now excusable no longer. In most matters of learning, literature, art, and social doctrine (though not in all), the principle has by this time exhausted itself and died away piecemeal; in architecture, however, it has scarcely yet completed its appointed course. Under what is called the Palladian School, Roman architecture, "adapted" to the modern time, enjoyed a long and uninterrupted career. In every style of copyism there arises a conflict of two principles,—the one carrying "adaptation" into "abuse," the other reverting to "purity" and gradually repudiating "adaptation:" and the reversion to purity inevitably conquers its rival as a matter of principle, and then conquers itself, making way for experiments in another style; for the result of this gradual repudiation of adaptation is simply the gradual abandonment of the one condition on which the exotic style was adopted, and the gradual development of its unfitness in requirements foreign to its origin. Thus the Palladian pursued purity at length into the Greek style, and at last to such an extent of repudiation of adaptation there as to make way for the palatial Italian and the Gothic styles (not to speak of erratic and frantic efforts in the way of Egyptian, Moorish, Chinese, and so on) to tempt the dissatisfied copyist. This they did successfully, so that Mr. Hosking tells us "it is an argument in proof of the classical beauty of the Pointed style that when the eyes of men were opened to the perfections of Greek architecture they began to discern *its* merits also." My explanation of the circumstance alluded to rather is that men discovered the inappropriateness of Greek "perfections," and turned their attention gradually to another style (from mere habit) to try what would come of that. During the past half of the nineteenth century we have been pursuing Gothic copyism into purity, and its unfitness for modern purposes is now being rapidly developed. Of the Italian style I can only say that, being so much more appropriate for our purposes than any other, it wears well and gives occasion for much promising originality, which will presently expand into the means of our acquiring a knowledge of our own strength; whereupon, the purity of the Gothic having by that time defeated itself, it is to be hoped that the true lamps of learning and teaching will be lighted again, and these false lamps, whereby art-learning has been made parrot-rote, and art-teaching the systematic overthrow of liberty and genius, extinguished and broken up for ever, to be dug out of deep dust in due time by the healthful archæologist and held up for the wonder of a better age, and for the warning of all well-meaning inquirers into antiquity to avoid the errors of the archæologian, whether Greek or Goth, and of all brethren in our art-fellowship to keep to the healthy first principles of their art as they would be worthy followers of those who have gone before, and worthy leaders of those who come after.

K.

ST. BOTOLPH'S WITHOUT, ALDERSGATE.—The parish church of St. Botolph Without, Aldersgate, was opened on the 4th inst., after having been repaired under the direction of Mr. John Blyth, architect. Our informant states that the coved ceiling over the altar is painted tints of drab, the whole of the ornaments enriched with gold. The wall under the string course is finished verd antique. The six upper panels are filled in with arabesques, and the four lower with figures representing the four evangelists, painted by Mr. Frederick Sang. The marbling and gilding were executed by Mr. Sewell.

SMOKE NUISANCE.

THE prevention of smoke is a desideratum which has, more or less, engaged public attention for many years; and individual enterprise has from time to time effected considerable results towards its accomplishment. Until a comparatively recent period, however, it has not fallen within the scope of legislative interference; and, indeed, such was not likely to take place before scientific investigation had proved that it was a thing not more desirable than practicable. Now, it is a requirement positively within the pale of the law; and we anticipate a near time when the manufacturing cities and towns of the United Kingdom will no longer be characterised by heavy canopies of blackening vapour, but present their tall smokeless chimneys to a cloudless sky; and when the overt act of belching forth "volumes of smoke" will provoke prompt and condign penalties. Luckily, it happens that the interests of the owners of these tall fumiducts (locomotive, by the way, as well as stationary), are on the side of prevention; and it will be when neglecting their own good, that they will become amenable to the laws which enforce it.

Already "the City" is within the scope of an enactment such as we refer to; as witness the following clause (xlviii), from the amended City of London Sewers Act:—

"That from and after the first day of January, one thousand eight hundred and fifty-two, every furnace employed or to be employed in the working of engines by steam, and every furnace employed or to be employed in any mill, factory, printing house, dyehouse, iron foundry, glasshouse, distillery, brewhouse, bakehouse, gasworks, waterworks, and other buildings used for the purpose of trade or manufacture within the City (although a steam engine be not used or employed therein), shall in all cases be constructed or altered so as to consume the smoke arising from such a furnace; and if any person shall, after the first day of January, one thousand eight hundred and fifty-two, use any such furnace which shall not be constructed so as to consume or burn its own smoke, or shall so negligently use any such furnace as that the smoke arising therefrom shall not be effectually consumed or burnt, or shall carry on any trade or business which shall occasion any noxious or offensive effluvia, or otherwise annoy the neighbourhood or inhabitants, without using, to the satisfaction of the commissioners, the best practicable means for preventing or counteracting such annoyance, every person so offending shall forfeit and pay a sum of not more than five pounds nor less than forty shillings, for and in respect of every day during which or any part of which such furnace or annoyance shall be so used or continued."

Here is something active and positive; and although, within Temple-bar, the *dictum* of "No smoking allowed" does not extend to kitchen chimneys, it may yet not be uninteresting if we examine the subject in its leading phases, to the end that the idea of smoke prevention may become, popularly, more familiar and less misty.

A very brief reference will suffice, to that transitional period when, through the decadence of the forests, the innovation of sea-coal, otherwise coal brought by sea all the way from Newcastle, had disturbed the ancient arrangements of the hearth, and interfered with the vested prerogatives of hand-irons and fire-dogs, superinducing "cradles" and such-like contrivances. It is so amusing, nay, edifying, to contemplate the disgust with which the refined and sensitive author of "Sylva" regarded the new fuel, or, at least, the effects of its extensive use in manufactories within the walls, that we are tempted to let him speak for himself,—showing how ancient is the outcry raised against the sooty products of coal combustion, although not accompanied with the demand that its consumers should burn their own smoke:—

"That this glorious and ancient city, which commands the proud ocean to the farthest antipodes, should wrap her stately head in clouds of smoke and sulphur, I deplore with just indignation. What darkens all her other attributes except that hellish and dismal cloud of sea-coal, which is not only perpetually over our head, but mixed with the otherwise wholesome and excellent air; and that not from culinary fires, which being weak and less often fed below, is easily dispersed; but from some few funnels belonging only to brewers, dyers, lime-

burners, and soap-boilers, one of whose spiracles alone does manifestly infect the air more than all the chimneys of London put together. Whilst these are belching from their sooty jaws, the city of London resembles the face rather of Mount Etna, or the suburbs of hell, than an assemblage of rational creatures, and the imperial seat of our incomparable monarch. These foul-mouthed issues, and curls of smoke do draw a sable curtain over heaven. The columns and clouds belched forth are so thick and plentiful, and rushing out with great impetuosity, they are capable of resisting the fiercest winds, and fall down upon the houses before they can be dissipated; so as two or three of these fumid vortices are able to whirl it about the whole city, rendering it in a few moments like the picture of Troy sacked by the Greeks, or the approaches of Mount Hecla. When the air in all other places is serene and pure, it is here eclipsed with such a cloud of sulphur that the sun itself, which gives day to all the world besides, is hardly able to penetrate and impart it to London; and the weary traveller at many miles' distance sooner smells than sees the city to which he repairs. It is that pernicious smoke which superinduces a sooty crust or fur upon all that it touches, spoiling the moveables, tarnishing the plate, gilding, and furniture, and corroding the very iron bars and stones. It is this horrid smoke which obscures our churches, and makes our palaces look old. How it sticks on the hands and faces and linen of our fair ladies and nicer dames who reside constantly in London, especially during winter, the prodigious waste of almond powder for the one, and soap and wearing out the other, do sufficiently manifest. It scatters and strews about those black and smutty atoms upon all things where it comes, insinuating itself into our very secret cabinets and most precious repositories, which diffuses and spreads a yellowness upon our choicest pictures and hangings; is avernus to fowl, and kills our bees and flowers, abroad suffering nothing to bud, display themselves, or ripen. The air of London is never clear of this smoke, which is a plague so many other ways, and indeed intolerable, because it kills not all at once, but always; for is there under heaven such coughing and snuffing as in the London churches and assemblies of people, where the barking and spitting is most incessant and unfortunate; and what may be the cause but the inspiration of this infernal vapour?

Shade of Evelyn! with what satisfaction must thou regard the lofty growth of the "spiracles" of these our days; but much more so, the pains and penalties now suspended over the heads of refractory brewers and soap-boilers.

SMOKE is the compound body arising from the combustion of substances; and it is the presence of carbonaceous matters that renders it opaque and visible. Were it not for these dark particles of unconsumed carbon, the products properly composing it—carbonic-acid and nitrogen—would be insensible to the sight. An analysis of London blacks or smuts, by Mr. Solly, jun., gave as follows:—

Salts of ammonia	426
Combustible matter	371
Silica	65
Oxide of iron	50
Alumina	31
Sulphate of lime	31
Salts of potash and soda	24
Carbonate of magnesia	2
	1,000

Imperfect combustion, from which thus proceeds opaque smoke, is commonly caused by the forcing the furnace to consume a greater quantity of fuel than it is calculated for; the object being the evaporation of the greatest possible quantity of water. The maximum of effect is obtained by certain ascertained relations amongst the parts of the furnace, the combustion, and boiler, a departure from which produces waste: these circumstances we shall briefly and severally point out.

The nature of the fuel—its kind and quality—are necessary to be well understood. The kinds employed may be classified as the anthracite, the bituminous, and the splint and Cannel coals. *Anthracite coal* is of a peculiarly hard, tenacious, and stubborn nature, requiring that it should be broken up into minute pieces, and largely, and even forcibly, supplied with oxygen, to procure the volatilisation of its products: this fuel, being smokeless, we have hardly to do with in this inquiry, beyond recognition. *Bituminous coal*, that which is most commonly used, is of a more friable nature, splitting up into fragments, as its gaseous components are evolved in combustion: in this process, a certain quantity of atmospheric air is essential. *Splint* and *slaty coal* burn more freely, and require less air than the preceding.

The air required for perfect combustion is not simply such as passes up between the bars of the fire-grate; but the efficacy of admitting a supply beyond, at the bridge, over which the flames pass into the flue, has been established; it being there prepared to admix advantageously with the uninflamed carbonaceous gases, rendering them capable of combustion on passing in contact over the more incandescent fuel on the rear portion of the grate. The quantity of air necessary, with bituminous coal, is found to be as much as ten times the volume of the gases; but as it will vary with the quality of the fuel, and the effect of supplying more than a sufficiency is an additional consumption of the latter—to make up for loss of heat, the apertures, in the first place ample in capacity, should be constructed so as to admit of regulation, till a close approximate to the maximum effect is obtained. This largeness of supply is owing to the fact of the presence, with the oxygen, of twice its volume of nitrogen, a gas which is neither combustible, nor an agent of combustion, and not being conveniently separable, is just so much worse-than-useless matter, the passage of which has to be provided for.

Fuel of the caking description is liable, by the vitrifying of its earthy particles, and forming clinkers on the top of the grate-bars, to close the openings between these, and thus prevent the admission of a portion of the air necessary for its combustion: with such fuel it is obvious the openings near the bridge are especially of importance.*

ON POLYCHROMATIC EMBELLISHMENTS IN GREEK ARCHITECTURE.

AT a meeting of the Institute of British Architects, on the 12th, Professor Donaldson gave an explanation of the system, as illustrated in the recent work "On the Polychromy of the Ancients," by M. Hittorff. He commenced his remarks by a tribute to the liberality of the foreign correspondents of the Institute, who, in the valuable works they presented to the Library, set a noble example to the members generally. The subject of Polychromy had occupied attention for more than thirty years. Even Stuart had intimated that some portions of the edifices of Athens, carved and uncarved, were embellished by colour; but this fact was only considered generally, and not as a principle in the architecture of the Greeks. About the year 1830, M. Hittorff read a paper on the subject before the Institute of France, which was published in the annals of the Archæological Institute of Rome. That gentleman had been so much struck with the results of his observation of the remarkable ancient monuments of Sicily, as to arrive at the conclusion that it was necessary, for the full effect of these works, that the whole of the buildings should be painted. This principle, broadly and unreservedly advanced, was attacked by M. Raoul Rochette, then Professor of Archæology at Paris, a learned archæologist, but neither an architect nor an artist. In two articles on mural painting among the Greeks, M. Rochette endeavoured to prove that these works were executed simply on tablets, and not upon the walls of the temples. The subject then seemed to slumber, though M. Hittorff and others continued their investigations. He (Mr. Donaldson) had himself been quoted by many authors, as the first to observe that the walls of the Theseum at Athens had been worked with a point, to receive a coating of plaster or stucco, enabling the whole surface to be painted. He had, in fact, brought to this country fragments from the Parthenon, the Propylæa, and the Theseum, which, on being analysed by Professor Faraday, gave ample evidence that painting did exist on these buildings, and showed what materials were employed for that purpose. The subject was forcibly brought before the attention of learned Europe by an important series of illustrations, published in Germany, by a gentleman then present, Herr Semper, some of whose drawings were displayed upon the walls of the room. Among these were restorations of a part of the Parthenon, a building at Pompeii, an Etruscan tomb, and a representation of the remains of colour visible on the Temple of Theseus. Mr. Donaldson also referred to a restoration of the façade of the Parthenon by Mr. Owen Jones, which he characterised as more ideal than that of Herr Semper, although displaying much study and ability. The work of Semper (in 1834) was followed in 1835 by another from the pen of Dr. Franz Kugler, "On the Polychromy and Sculpture of the Greeks, and its limits." The latter branch of the question was a most important one, for the restorations of both Hittorff and Semper were unlimited in their application of colour, and he believed the meeting would be disposed to concur with them. Following, however, in the steps of M. Raoul Rochette, Dr. Kugler was of opinion that polychromy in ancient art was limited in its application.

The Institute of British Architects had appointed a committee to examine the traces of colour on the Elgin marbles, and the results of their researches, and the accompanying analyses of Mr. Faraday, were not only important in themselves, but agreed with those arising from similar investigations, subsequently undertaken by scientific men at Athens.

Proceeding to notice M. Hittorff's work, Mr. Donaldson explained that the first part of it took a general view of polychromy, considered historically, and the second part discussed it practically. It appeared that M. Hittorff had especially directed his attention to the remains of the small tetrastyle temple of Empedocles, at Selinus, in Sicily, which edifice he had restored, with polychromatic decorations throughout, his illustrations of that building being exhibited and referred to by Mr. Donaldson. The plan of this temple showed a portico of four columns in front, and behind them the walls of the pronaos and cella, measuring only 20 feet by 16. It appeared, from the porous nature of the stone, that it required to be covered with stucco, and M. Hittorff, from his examination of the fragments, came to the conclusion that the whole building so stuccoed was elaborately covered with painting. The floor, or pavement, of the cella and pronaos was represented in the drawing as executed in mosaic work. There was, however, no such mosaic work found, but, on the contrary, there were traces of a floor of plaster. M. Hittorff found, by researches in other temples, an instance of a floor of painted stucco, and such floors were also found at Pompeii, Rome, and Olympia. The author accordingly restored the pavement of the Temple of Selinus in painted stucco, adopting forms and patterns similar to those of ancient mosaic floors. M. Hittorff, in conjunction with M. Zanth, his fellow traveller, found some fragments of a fluted shaft on the site of the temple, with portions of a Doric entablature and an Ionic capital, and formed their restoration of the building by a combination of these discoveries. This combination of the parts of two orders was not uncommon in Sicily, Magna Græcia, and the East. At Agrigentum the tomb of Theron had a Doric entablature, while the capital of the columns was Ionic. In the remains at Pæstum, in the tomb of Absolom, near Jerusalem, and in the remarkable buildings at Petra, similar instances were to be found; while the arch at Aosta, near Turin, presented even a Corinthian capital supporting a Doric entablature. Some of these examples were of later epochs, but there was more than one such example furnished by the truly classic period of ancient art. M. Hittorff also adverted in his work to many examples of the same practice, as being represented on the vases of the ancients. It was also shown on some frescoes at Pompeii. M. Raoul Rochette, ignorant of this admixture of two orders, objected on that ground to M. Hittorff's restoration; but it was evident, from the instances referred to, that the ancients did not confine

* To be continued.

themselves to the strict rules and limits of art, but allowed themselves, on the contrary, considerable licence. Mr. Donaldson here referred to a restoration of the temple in question made by himself, from M. Hittorff's descriptions, &c., before he had seen the drawings of that gentleman; and although there were some discrepancies in respect to the colours in the two restorations, a strong general resemblance was, on the whole, observable. Mr. Donaldson then pointed out in detail (referring to the engravings), the application of colour to the various parts of the temple.

The torus of the base was ornamented, in conformity with an authority found at Pompeii. The shafts of the columns had a general tone of yellow, which M. Hittorff conceived to have been the prevailing colour of the building, relieved by picking out several parts in different colours. The capital was modestly picked out, and the order generally, as restored by M. Hittorff, was less bold and positive in colour than in that restored by Mr. Donaldson. Reference was here made to the drawing of an Ionic capital, restored in colours, the original of which had been brought from Athens by Mr. Inwood. Even if it had been necessary to employ a Doric capital, that might have been coloured in the manner shown in the drawings, in which Mr. Semper decorated the abacus of the capital of the Doric column of the Parthenon, as well as the echinus, the latter with egg-and-tongue ornaments. Mr. Donaldson, without any conference with him, had applied the same mode of decoration; for it was not to be supposed that so important a member as the echinus, in the façade of the Parthenon, would be left plain, between the fluted columns below and the rich frieze above. M. Semper stopped at the echinus, but Mr. Donaldson was inclined to think that some small ornament was also introduced upon the hypotrachelium, to give greater height and importance to the capital. In the Roman Dōric, and in some examples of the Doric in Asia Minor of a late period, there was actually a sculptured ornament in the necking of the Doric capital. Mr. Donaldson thought, therefore, there was, very possibly, some ornamentation on this member of the order. What, indeed, was its use? In some instances, its lower boundary was formed by a mere line,—in the Theseum not one-eighth of an inch deep,—and therefore it was highly probable that, as a division between the capital and the shaft, it had some decoration to give it emphasis and expression.

In noticing the decoration of the entablature, Mr. Donaldson adverted to the statement of Vitruvius, that the ends of the beams (represented by the triglyphs) were painted with a blue wax. At Pompeii, instances were found where the triglyphs were blue, and the metop of a lighter colour; and there was an indication of blue paint on the triglyphs of an Etruscan tomb, engraved in M. Semper's work. In reference to the tympanum, Mr. Donaldson expressed a general opinion that sculpture was freely and even lavishly employed by the Greeks as a necessary adjunct to their temples, to impress upon the mind of the beholder the purpose and object of the building. The fronts of the Parthenon strikingly exemplified this view, and it was ably enforced in Mr. Penrose's recent work. Although there was not a fragment of sculpture left in the tympana of the Theseum, Mr. Penrose had discovered the holes by which the figures had been attached to the building. In restoring the tympanum of the pediment of the Sicilian temple, M. Hittorff finding no traces of sculpture, had adopted a foliated ornament, based upon fragments of terra-cotta found in the same island. The metopes were also ornamented with a foliated pattern, on similar authority. It was well known that the friezes of temples were richly decorated, often with figures and representations of processions; and although the frieze of the Erectheum, at present, was of a plain dark-coloured marble, it was originally ornamented with figures in white marble. In the Theseum, only a few of the metopes on the return were sculptured, and by some it has been supposed that the rest were painted. M. Von Klenze, in examining the fragments of the Propylæa, found that some of the blocks, which he supposed to belong to the metopes, were sunk to receive sculpture, whilst others had a perfectly plain face, and were incapable of receiving any, and he therefore thought they were intended to be decorated by painting. Mr. Donaldson, however, did not think there was sufficient authority for that opinion, because it would be an arrangement not only inconsistent in itself, but difficult to carry out satisfactorily, as it would involve the necessity of placing a triglyph, instead of a metope, in the centre, under the pediment on either front. With reference to the background of the tympanum, M. Hittorff had coloured it red in his restoration. Undoubtedly that surface generally bore colour of considerable depth, in order to throw out the sculpture, because the figures themselves, and the draperies, were painted, and consequently rendered a coloured ground necessary. Some fragments of the Parthenon had been thought to show traces of a red ground, and that colour had been adopted by M. Semper in his restoration of the Parthenon. The more general opinion, however, and that adopted by Mr. Owen Jones, was that the ground of the tympanum had been blue. Mr. Donaldson next referred to a running ornament introduced by M. Hittorff on the architrave. The application of colour, by M. Hittorff, to the mouldings of the pediment, was sanctioned by the authority of M. Semper, Mr. Owen Jones, and Dr. Kugler, though each of these gentlemen applied different colours. Mr. Penrose had found traces of the design of an ornament on the crowning ovolo of the Parthenon.

It was to be observed that the forms of decorative art were to be traced by progressive steps: what was at first a mere superficial delineation of ornament, afterwards became a substantial embodiment in sculpture. A question had been raised whether these ornaments were not the production of a later period, and of a less refined and more voluptuous taste; but, in fact, the design of the ornaments was of the same style, in purity of conception, as the monument itself. The fragments in the British Museum had the outlines of the ornaments deeply engraved upon the face of the mouldings, which it was not likely would have been so treated, if the ornaments painted on them were a subsequent addition. The system, moreover, was not one of mere occasional introduction, but was generally adopted. The acroteria and antefixæ were introduced in M. Hittorff's restoration; and their importance, in adding to the effect of the elevation, must be admitted. There was ample authority for them, for they were actually discovered among the remains of the Temple at Egina, and the blocks for their reception still remain on the Parthenon. The question of the mode of covering the temple had been carefully studied by M. Hittorff. Byzes of Naxos was the first to introduce tiles of marble, common tiles having previously been employed. The refined taste of the Greeks led them from an early period to apply ornament to their roof-tiles. By putting together the fragments found in other places, M. Hittorff had restored the roof of the Sicilian temple at Selinus, in the manner shown in the drawing. The tiles were often painted on the inside as well as outside, because they sometimes formed the whole covering of the temple, and were visible from the interior. In other cases, as in the Parthenon, horizontal beams were used, dividing the roof into caissons.

Before proceeding to the interior of the building, the wall of the pronaos was described. The whole of this was coloured: first, there was a dado of dark colour, and of considerable height: this dado was a remarkable and effective feature in the Greek temples: sometimes it projected slightly: above that were panels of lighter colour. All these decorations were authorised by paintings discovered at Pompeii, drawings of which were referred to. The door-cases of the temples were of stone, marble, or bronze. From his own examination of the Parthenon and the Propylæa, Mr. Donaldson was of opinion that bronze had been so employed in both these edifices: they were probably gilt, and embellished with a great variety of beautiful colours. The doors themselves were formed either of marble, wood, bronze, or mixed materials. Cicero, in his oration against Verres for maladministration in Sicily, referred to the beautiful doors of the temple of Minerva, which were enriched with panels of ivory. The bronze doors of the Pantheon were illustrated in the work of Messrs. Taylor and Cresy. In M. Hittorff's restoration, the doors were supposed to be of bronze of various tones or tints. Of course, the colours of the Florentine, the Venetian, and other bronzes, might be introduced, to relieve and add to the effect. The upper panel was open to admit air, and light, which was more necessary, for these temples were very dark, and chiefly lighted by lamps perpetually burning, as was still the case in the modern Greek church.*

A GRAVE QUESTION, IN WHICH DOCTORS DIFFER.

DOES LEAD POISON WITH HARD WATER, OR WITH SOFT, OR WITH BOTH?

HAVING, of course, a strong preference for soft water rather than hard for culinary and other domestic use, and being anxious that the metropolitan multitude should be provided with pure soft water, not only for economy and cleanliness in washing, but for health and freedom from painful and fatal complaints which there is but too good reason to believe are generated, or at least promoted, apart altogether from lead, by the continual use of hard water,—there is one question relative to the substitution of soft water for hard as well as pure for impure, which ought not to be allowed to remain longer in its present unsettled, contradictory, and dangerous position,—namely, the question relative to the poisonous influence of leaden pipes and cisterns on water, soft or hard, pure or impure, or on both.

Until lately, it has been an axiom with our standard chemical writers on toxicology and medical police and jurisprudence, that the softer and purer the water, the more likely is it to act on lead, and to be thereby poisonously impregnated; and that the harder the water, the more likely is it to remain pure and unimpregnated by the lead.

True, these hitherto accredited authors have admitted or declared, on the one hand, that perfectly pure soft water, *per se*, will not act on lead, and, on the other hand, that hard water will. But then they have explained the apparent inconsistency of such a declaration with their own prudential and most important axiom, by alleging that, on the one hand, lead with pure soft water is liable to be so influenced by the air, and by carbonic acid gas, dissolved in the water, as to become corroded, and then to impregnate and poison the water continually; while, on the other hand, lead with hard water, and especially with neutral sulphates, such as that of lime so usual in hard water, is so acted on by the salts contained in hard water, as to become incrusted with its own corrosion, and thus protected either from farther waste in itself, or from contributing any continued poisonous impregnation to the water.

Since the agitation of the metropolitan supply question, however, and the prevalence of a very general desire to substitute pure soft water for the hard and otherwise shockingly impure supply at present in use, evidence has been adduced which, *ex facie*, appears expressly to contradict these heretofore established axioms. We feel it therefore absolutely necessary to insist that this vital and most important subject shall be forthwith fully examined, discussed, and settled; so that, if it, on the one hand, shall indeed be found that the desired supply of pure soft water is not attainable with safety so long as leaden pipes and cisterns shall continue to be used, the public and the profession shall be timeously warned, and, in the event of such a supply being provided, measures of an effectual nature be taken to obviate the anticipated mischief; or, on the

* On the 26th Mr. Donaldson will give a general *résumé* of the subject, in order that it may be discussed by the meeting.

other hand, if soft pure water be the only safe supply, that its substitution may be hastened with the utmost rapidity, or means at once resorted to for the palliation or prevention of mischief, not merely future, but at this moment in active force.

For our own part we cannot bring this grave question again under consideration more effectually than by citing the conflicting, or at least apparently conflicting, evidence, *pro* and *con*, leaving it especially to those professional chemical authorities who seem to be at variance, to come to a right understanding, and hence to unanimity, on the subject, as best they may.

And, first, in support of the assertion that danger is not to be feared from soft water, but from hard. In favour of this view, a view which we hope will be found correct, although we confess that our fears are still at loggerheads with our hopes, the most influential evidence we have yet seen is that of Dr. Lyon Playfair. On the 6th ulto. we inserted in our columns a report of a lecture by this gentlemen at the Museum of Practical Geology, on water-supply, from which we quote the following passage:—

"It has been asserted that soft water acts injuriously upon lead, and that the presence of lead can be detected in soft water which has been kept in leaden cisterns by the addition of sulphate of ammonia. This latter is a delicate test for lead, throwing it down in a faint black precipitate. In order to test the truth of this assertion, Dr. Playfair had prepared a number of bottles, each containing a piece of lead immersed in water containing specimens of all the salts found in the London water, and also in water free from these salts, or perfectly soft. These bottles were sealed up in January last, and the action of all the water containing salts was very apparent, while the soft water had not acted on the lead at all. As an example of those which had no action on the lead, the lecturer specially alluded to the Wandle water, one of those proposed to be brought into London, and well known for its remarkable softness. Where common salt is present in water, the action on lead is considerable. *All his experiments tend to prove that perfectly soft water has no action on lead, and that all the solid ingredients of water* [constituting *hard* water] *tend to produce and increase the action of lead.*"

Before proceeding to quote any other evidence, we must here remark, that so far as regards Dr. Playfair's experiments with perfectly soft water, the plain inference which the public must inevitably draw from a set of experiments so exhibited at such a time, is, that it is perfectly safe to pass pure soft water through leaden pipes, and to keep it in leaden cisterns. This, we have no doubt, is the lecturer's own conclusion; but it is necessary to point attention to it, in order to remark that, while there is a singular coincidence, in *fact*, between the result of such experiments, and the assertion of Dr. Paris, in his Treatise on Medical Jurisprudence, that "pure water, *provided the air be excluded*, does not appear to exert any sensible action upon lead," and of Christison, in his Treatise on Poisons, that "distilled water (that is, chemically *pure* and soft water), *deprived of its gases by ebullition, and excluded from contact with the air*, has no action whatever on lead;" still there is a mighty difference indeed, as will be afterwards clearly shown, in ultimate results.

Dr. Playfair's conclusion appears to be supported by practical evidence. Thus, in the appendices to "The Report on the Supply of Water to the Metropolis," issued by the General Board of Health, and already quoted at p. 169 of vol. ix. of our journal, a working plumber, William Millard, gives the following evidence:—

"What is your observation of the different action of hard and soft water on leaden cisterns?—The hard water eats the cistern away: the soft water (that is, rain water) does not sensibly touch it at all. The hard water of Highgate will, in a few years, eat the bottom of a leaden cistern entirely away, so that it will be useless.

In how many years?—In about three or four years.

Does not a leaden cistern usua'ly last longer than that in Highgate?—No; it eats holes in the bottom, particularly at the places where there is solder, giving it a honey-combed appearance. This is so much the case, that it is a common custom here for the people to have their cisterns painted.

Is that a protection?—Yes, if the paint be allowed time to get thoroughly dry before the water is let into the cistern, the water does not act upon dry lead, and the cisterns will then last for years."

This evidence, we say, *appears* to support that already adduced. As to the safety of soft water it decidedly does so; but it may be a question, whether it really were the hard water itself that here was in fault, so much as the galvanic action of the solder, and some intermittent exposure to air while moist, from want of constant supply, and of consequent quiet and continued deposition of protective crust.*

That other practical men, however, have come to a like conclusion, so far as regards the influence of hard water, appears from the evidence of Mr. Spencer, of Liverpool (the discoverer of the electrotype, if we mistake not, and hence a most competent authority). He says,—

"Those who have observed the destructive effects of hard water on cisterns, especially in Liverpool, where the water is pre-eminently hard, but who have not studied the matter chemically, have been at a loss to account for some of the scientific opinions so much at variance with their daily observation. In a word, the closet experimenter has usually come to the conclusion, that *soft water only* acts upon lead, while the practical observer finds that cisterns are more rapidly corroded by hard water; hence has arisen so much conflicting opinion. A little reflection, however, will render it obvious that the effects of practice can scarcely be observed by the mere immersion of slips of brightened lead into glass vessels containing either hard or soft water, and there suffering them to remain for a few weeks, perhaps only so far covered as to prevent evaporation or the accession of dust.

It must be recollected also that, as cisterns are constructed, lead is not the only metal which has to be dealt with; there being the solder which is used for the joints. Now this substance, which is an admixture of lead and tin, will, when immersed in water along with lead, act as a distinct metal, and give rise to a voltaic action between the lead, the solder, and the water. This will cause a rapid corrosion at the joints, but it will be more or less active *in proportion to the hardness or chemical impurity of the water.*"

Here, indeed, the evidence is not only in favour of Dr. Playfair's experiments and conclusions in some respects, but in others something more: in fact, it strikes both ways, and increases the critical interest of the question.

Dr. R. Angus, in the following evidence, also corroborates the truth of the idea that hard water is dangerous in lead, while at the same time, however, asserting that soft water is still more so:—

"The use of lead pipes is common enough; and although the danger from lead has often been pointed out, there is no diminution in the amount used. It is acknowledged that with soft water lead is very dangerous; but I am disposed to think that it is dangerous even with hard, except when a crust forms upon it. When a lead pump is used, no matter how hard the water is, there is still lead to be found in it. In one case I found lead where there were 62 grains of lime salts in a gallon: the family filtered the water, but that did not quite remove it, although it was much improved. This shows the lead to have been in complete solution although the water was hard. The pump was made of lead, so that there was a constant friction preserving the surface clean and assisting comminution."

Here, however, it is obvious that the hard water had no opportunity of forming the protective crust, so that this evidence rather militates in favour of the comparative safety of hard water in lead cisterns, explaining, by inference, why it is so, as well as one way in which it may nevertheless be dangerous to use either hard or soft water, viz. in association with a leaden pump.

Again: we find a correspondent of our own, Mr. H. Osborn, of Southampton, a practical chemist, while corroborating the truth of some previous remarks by us on the mutual influence of lead and water, stating that he

"Examined some water a few months since, which contained lead in solution, and the pipe had been laid down about fifteen years; but, notwithstanding that the solid contents contained in a pint of the water amounted to ten grains, and were composed of chlorides and sulphates, *they afforded no protection by forming an insoluble crust*, otherwise the lead would not have been found in solution."

It so happens that Mr. Osborn also makes some remarks on experiments with slips of lead in glasses of water, which not only corroborate the truth of Dr. Playfair's experiments, but, in fact, seem to show how they may be reconciled with the opposite conclusion. We shall quote them here, although they might, with equal propriety (perhaps even greater), have been reserved to strengthen the adverse view:—

"There is less danger in drinking water when kept in leaden tanks, than when it has passed through pipes, because the gases which usually form the most soluble corrosive matter are confined within the pipe, whereas, in open cisterns, the gas is more liable to escape. I have found carbonic acid in water which corroded lead rapidly when corked up in a bottle or confined in a pipe (the pipe leading from the pump to the well is of course always full of water), but when a slip of lead is introduced into a glass of the same water, the metal is scarcely acted upon, owing to the gas escaping."*

* A witness from Paisley, where soft water has been introduced, says that corrosion in pipes takes place only under the intermittent supply, by the action of the atmosphere on the pipe in a damp state; and that an iron pipe constantly charged will not corrode at all, whether the water be hard or soft, and will last at least four times as long as a pipe where the air is admitted into it. Other witnesses corroborate the fact that, with some waters, the wear of pipes by the intermittent supplies is frequently very rapid, the rationale being, that oxidation takes place whilst the pipe is empty, and that the oxide is swept away by the return of the water. As to galvanic action, Christison, in his treatise on Poisons, ed. 1845, p. 536, says,—"I have seen pipes deeply corroded externally, when made of sheets of lead rolled and soldered; and the action was deepest on each side of the solder, which had itself entirely escaped corrosion. *Even inequalities in the composition of the lead may have the same effect.* Sheet lead, long exposed to air or water, is sometimes observed to be corroded in particular spots, and these will always be found in the neighbourhood of parts of the metal differing in colour, hardness, or texture from the general mass." Similar effects, he remarks, may arise simply from fragments of other metals lying along in contact with the lead. They may also, he thinks, arise even from portions of mortar being allowed to lie on the lead; but the action here, of course, is not galvanic. He has no doubt that many of the instances of unusually rapid corrosion of lead by water are really owing, not to the simple action of the water, but to an action excited, obscurely, in one or other of the ways now mentioned.

NOTES IN THE PROVINCES.

Windsor.—The Castle approaches seem to make but slow progress towards completion. "A fresh difficulty," says the *Windsor Express*, "has arisen with respect to the boundary of the fence at the turning into High-street. The line was laid out in conformity with the directions of his Royal Highness Prince Albert, and so perfectly satisfied were the authorities of the town with it, that they resolved to erect a handsome pedestal lamp in the centre of the opening caused by the junction of High-street, Castle-street, and Peascod-street. Much to the surprise and disappointment of the inhabitants the curve of the pavement has again been altered so as to encroach six feet more into the carriage way, and thus render the erection of a large public lamp at the junction entirely out of the question. The Mayor and Mr. Bedborough have been re-appointed to arrange the matter with the Commissioners of Woods and Forests," who appear to be considered as exclusively responsible for the alteration made.

Portsmouth.—Messrs. Fox and Henderson, who have the Government contract for the erection of a new smithy in Portsmouth yard, have commenced their work. The old buildings have been cleared away. The smithy will stand between the new factory and the building slips, and will take in Nasmith's patent steam hammer. The *Hampshire Guardian* says "it is to be constructed of glass and iron, and a part of the late building in Hyde-park will, in all probability, form the structure."

Portland.—The breakwater works are making progress, and already afford shelter to shipping. The works are carried out to a distance of 7,750 feet from the original line of shore into about nine and a quarter fathoms of water. Notwithstanding the damage done on 1st October last, when upwards of 300 feet of the

* To be continued.

staging was swept away, the contractor, Mr. J. T. Leather, with his agent, Mr. E. P. Smith, under the superintendence of Mr. Coode, the resident engineer, have made all secure again.

Compton Greenfield (*Bristol*).—The dilapidated and dangerous condition of the ancient church of Compton Greenfield, near this city, says the *Bristol Journal*, having rendered it necessary to take down and rebuild nearly the whole of the external walls of the structure, it was deemed proper to have the church reconsecrated. This ceremony was performed on Tuesday last. The church, upon the foundation of which the new building is erected, was an ancient Norman structure, of which the porch door, the tower, and the chancel arch are incorporated in the new edifice. The newly-erected building consists of a nave, 30 feet by 20; chancel, 20 feet by 11; a small arched recess on the north side (an addition made to the new building, which is otherwise similar to the old structure), 9 feet by 6; and tower about 11 feet square. It provides sitting accommodation for 110 persons. The ancient tower is of Perpendicular style; the nave and chancel of Norman, with high-pitched open roofs of Perpendicular character, as is all the wood furniture. All the windows are filled with painted and diapered glass. The west window was presented by Sir J. F. Davie, Bart. Arrangements have been made for lighting the church by night, by camphine burners, attached to the walls by ornamental wrought-iron work. The architect is Mr. Fripp, of Bristol. The whole expense of the alterations and enlargement, estimated at fully 1,000*l.*, has (with the exception of 50*l.* paid by the parishioners for the carriage of materials) been borne by Mr. R. C. Lippincott, of Over Park.

Torquay.—A new Wesleyan Chapel is about to be erected under the superintendence of Mr. E. Appleton, architect. It is situated on a platform cut out of the side of the Waldon Hill, and is approached by a public road, with a gradient of 1·15, and a private road within the chapel ground of 1·10, in order to raise the building up as high as possible. It will be built of the limestone of the neighbourhood, and will have an open timber roof: the style is early English.

Birmingham.—New offices for the Board of Poor Law Guardians are about to be erected in a central position, on a plan by Mr. Bateman, architect, on condition that the cost does not exceed 2,900*l.* Two different modes of construction, according to the local *Journal*, have been recommended by the architect, involving the use of different materials, the one of red brick with stone facings, and the other of cement. The style of architecture selected is Italian, and the appearance is plain and unpretending. The basement throughout will be rusticated, and the windows and principal door, the arches of which are semicircular, dressed with stone or cement. The building presents two stories towards Paradise-street, to which thoroughfare the front rears itself, but the abrupt fall in the level of Suffolk-street admits of another in the basement, with an entrance from the last-mentioned street. The front will be surmounted by mouldings, a consoled cornice, and a parapet and balustrade, which will be partially continued along the side, the insignia of the board being displayed in a block ornament in the centre. The basement story is devoted to the relief department, and contains a relief board-room, pay-clerk's and relieving-officers' rooms, porter's lodge, and waiting-hall for paupers. The first floor is appropriated to the levy department, and includes collector's room, levy-clerk's office, overseers'-room, and record-room, of fire-proof materials. From the lobby a staircase will lead to the general offices, including those for the clerk and assistant-clerks, a committee-room, and a board-room at the rear and lighted from the roof. It is intended to heat a portion of the premises by hot air, and the remainder in the ordinary manner.

Wolverhampton.—The opening of the new Exchange here was inaugurated by an entertainment given by the mayor on 5th instant. The great hall, which is 100 feet long, 50 feet wide, and 50 feet high, is intended for the meetings of ironmasters and farmers, and also for public meetings, concerts, &c. In its present state, it is said to be not very well adapted for hearing or speaking in. Besides its original design, four columns, with Corinthian capitals, have been added in the interior as supports to the glass dome which lights it. Objections have been taken to the effect which this new edifice produces on the very different style of the old Collegiate Church adjoining it.

Loughborough.—Several influential gentlemen in this town and neighbourhood contemplate erecting an assembly-room, in which meetings and balls may be held, lectures given, and other business of a similar nature transacted.

Rotherham.—A large Gothic monument has been erected by Mr. Edwin Smith, of Sheffield, sculptor, in Rotherham Church, to the memory of the late Mr. Bentley. It is executed in Caen stone, with a statuary marble tablet in the Decorated style.

Doncaster.—A project being on foot for the erection of a stained-glass window in the west end of the parish church, to the memory of the late Sir William Cooke, Bart., a local worthy to whose honour dissenters as well as churchmen are likely to subscribe for a fitting memorial, a correspondent of the *Doncaster Gazette*, while remarking that the church ought to be decorated as desired, suggests that for this particular purpose all parties would be more likely to unite in subscribing towards the erection of a statue or some charitable asylum. Taking, he remarks, into consideration the expense of the east window (1,000*l.*) and the alterations that would be required to give full effect to the beautiful tracery of the west window—the removal of the organ would be necessary, the possible lowering of the west gallery, and the taking down the gallery in the north transept for the organ: with these alterations and the stained window, the cost could not be much less than 2,000*l.*; and for such a sum an asylum might be built with an endowment for several worthy objects of charity.

Alnwick.—It is proposed to adorn St. Paul's Church, Alnwick, with stained glass, as a monument in honour of the late Duke of Northumberland.

Glasgow.—This city is about to have the benefit of another charitable institution for the education of children belonging to the humbler classes. By the will of the late Mr. Allen Glen, for many years a joiner in Glasgow, the sum of 16,000*l.* was left to found a school or schools to bear his name, and to be erected on his property between Hanover-street and Frederick-street. The work was commenced some weeks ago, and is expected to be finished some time in the course of the summer months. The front of the building faces Cathedral-street. The institution is intended to furnish education, clothing, and probably boarding, to about fifty boys, sons of tradesmen, or of parents belonging to the industrial classes.

Forfar.—The monument to the late Sir R. Peel has been erected and is the first permanent memorial in Scotland of Sir Robert. The monument occupies a very commanding site on an acclivity to the south of the town, and is built entirely of ashlar, from St. Andrews. It consists of eight Corinthian columns of the Tivoli example, disposed round four central piers, and showing four pediments to the cardinal points. Over the piers a square portion rises considerably above the ordonnance, and terminates with a balustrade and vase. The west front of the basement contains the inscription tablet, and is flanked by two sphinxes. The whole height of the structure is forty-two feet, and it has been executed by Mr. David Barry for about 280*l.* The architect is Mr. Maclaren, of Dundee, whose design, according to the *Northern Warder*, was selected by the committee from among thirty-four submitted in competition.

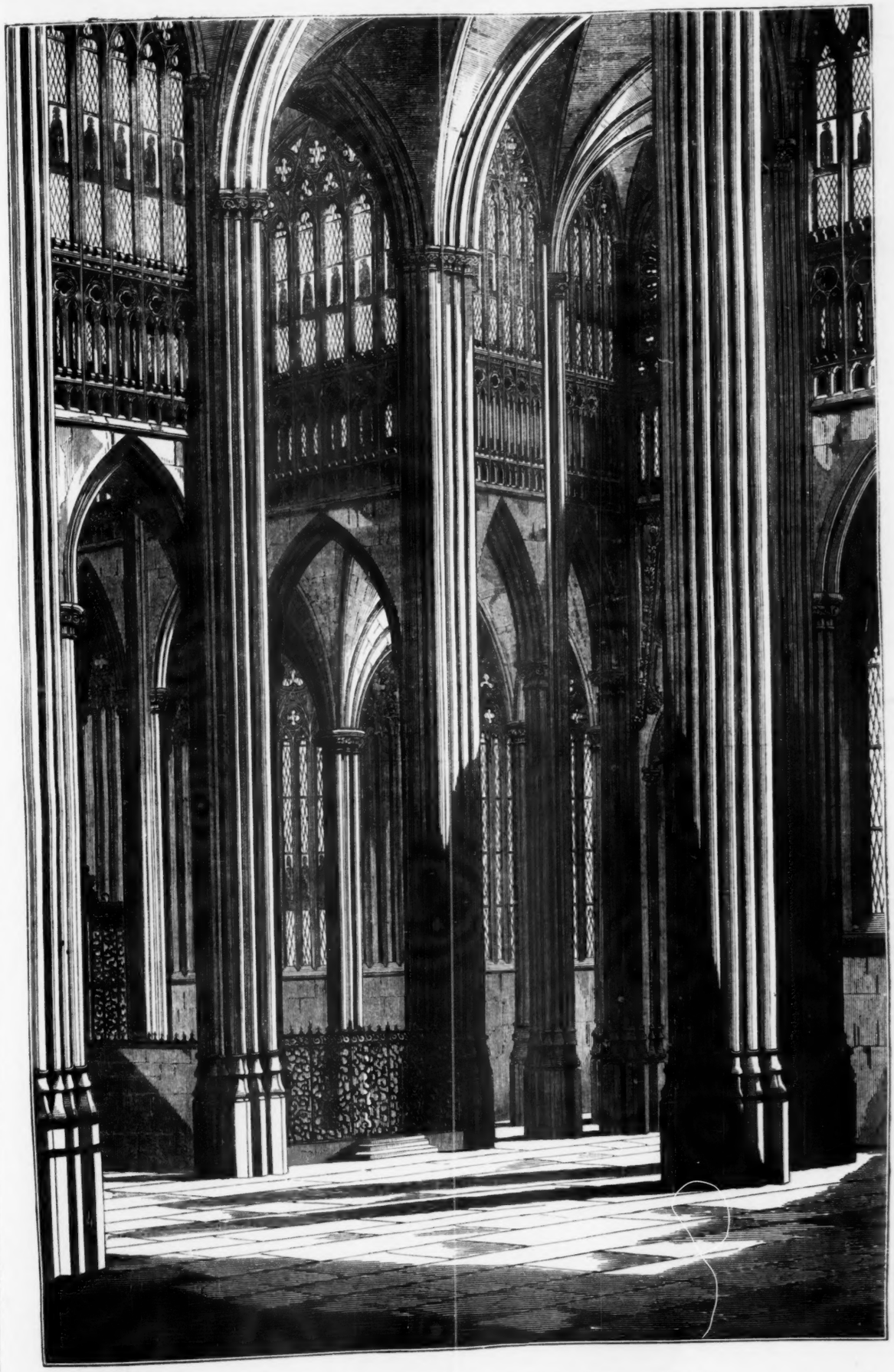
SURREY TIDAL DOCK. — Amongst other measures proposed for the improvement of the Thames navigation, a plan is announced for the construction of a large tidal dock on the Surrey side.

THE CHURCH OF ST. OUEN, ROUEN.

FEW cities enjoy a more wide-spread reputation for ecclesiastical antiquities than Rouen. That this celebrity is well deserved, none who have once visited it will be inclined to dispute. There are still remaining fifteen churches (exclusive of those which were closed in 1791, and which have since been put to most base uses). All of these have some particular beauties which render them worthy of the most attentive examination. Of these churches, the Cathedral, St. Ouen, and St. Maclou are by far the most important, and we propose from time to time to give some few illustrations of these buildings. That which we now present to our readers is an interior view of the Church of St. Ouen, taken from the north transept. The Abbey of St. Ouen, the most ancient in Normandy, was founded in 533, and in 841 it was destroyed by the Normans, who had just landed at Rouen. The mischief thus committed by his followers was in part repaired by Rollo, who commenced the rebuilding of the abbey, and his example was followed by the dukes who succeeded him; but in the time of William the Conqueror, the building was again demolished, and the first stone of a new church laid in 1046. The whole work was not completed until 1126, and in 1136, only ten years after its completion, the work of eighty years was in one day destroyed by fire. Through the liberality of the Empress Matilda and her son, Henry II. of England, who was also Duke of Normandy, the monks of St. Ouen succeeded once more in rebuilding their abbey; but even this edifice, which had been raised with great care, and was in every way far superior to its predecessor, was destined to share a like fate. In 1248 fire again did its work, and the destruction of the immense pile was complete. At length a building was commenced that was destined to endure for centuries. In 1318 the first stone of the present magnificent edifice was laid by John, the twenty-fourth abbot. In twenty-one years, during which the works proceeded without interruption, the choir, with its chapels, the piers which support the central tower, and the greater part of the transept were finished. These portions cost about 110,000*l.* of our money. The completion of the transept was deferred till 1439. The central tower was completed before the end of the fifteenth century, and the whole work, with the exception of the west front, which was left unfinished, was brought to a conclusion about the year 1540. The entire length of the building within the walls is 450 feet, which is thus made up:—the nave 264, the choir 110, the remaining portion extending to the end of the Chapel of the Virgin, 76 feet. The height of the choir is 108 feet, and the entire breadth 78 feet. The length of the transept 143 feet by 38 in width.

Our engraving is from a drawing made on the spot, by Mr. Caveler.

PROFIT OF HIGH FARMING.—Mr. Mechi, who, as every one knows, has been laying out a good deal of money in the improvement of his farm of Tiptree, at Kelvedon, Essex, has published a sheet of explanation as to an alleged loss in place of a gain on his balance-sheet for last year. From Mr. Mechi's explanation, it appears that in place of being a loser he is even already a gainer, with a prospect of increasing income with decreasing outlay. The alleged loss consisted simply of a sum of 600*l.* minus on 1,600*l.* of purchased food for live stock kept mainly or exclusively for their produce of manure, which latter he regards as more cheaply obtained in this way, for the 600*l.* in question, than if directly purchased as manure. Moreover, he calculates that for the future he will not require to buy any more artificial food, or manures either, although still able to keep plenty of stock from the produce of half of his farm. There is here, he says, a clear and permanent profit in place of even a temporary loss. The boarded floor system he anticipates will shortly be generally adopted (we scarcely think so), and straw be consumed as food.



INTERIOR OF THE CHURCH OF ST. OUEN, ROUEN.

VALUE OF THE "SUDATORIUM."

I OBSERVED lately a letter in your pages pointing out some of the advantages of fire-proof houses: there is one important benefit, of a sanitary character, which they would confer,—that is, a small room might be constructed below ground, in private houses, both in town and country, heated to the degree of an oriental hummaum, without incurring danger. In the East they have been universal from time immemorial. In ancient Rome, and over her wide dominions, the *sudatorium* was considered indispensable as a preservative of health: in many of the remains of Roman villas discovered in this country, the tile flues by which such rooms were heated are still visible. The Danes introduced the practice again into England, for it is on record that it was the cause of the preference manifested by the Saxon ladies for the invaders.

Now, in a commercial country like this, a hot room would be peculiarly desirable: the merchant sits all day at his desk: he cannot afford time for out of door exercise; but his daily task being terminated, he thinks he is fairly entitled to a good dinner: down goes the turtle, followed by the punch: here is a lamentable excess of imports over exports: the stomach does much, the pores nothing; hence gout, apoplexy, and a legion of ills. The citizen in consternation asks,—"What! am I to work hard and live on gruel?" No, good sir, let your house be fire-proof: employ an architect, acquainted with the mode of heating adopted at Smyrna or Constantinople, to build you a subterraneous room, say 9 feet square, with a dressing-room adjoining at a lower temperature, and thus the depletion rendered necessary by the counting-house and the good cook will be effected periodically by the enjoyment of a luxury without loss of time, without trouble, but with cheering gain of appetite. Just try. T. R. Y.

THE DRAINAGE OF TOWNS AND ITS DISTRIBUTION.

I WAS much struck with your recent powerful appeal on the subject of metropolitan drainage, and preserving the river from pollution. It is positively disgraceful that the present state of things should still go on without any hopeful prospect of amendment. The quotation from the Report of the Select Committee of the House of Commons as to effecting a remedy through the agency of a "Company," although just to a certain extent, is likely to mislead; as may be shown by the experience of the Sewage Manure Company, whose Bill was under the consideration of the Committee alluded to. The experiment, as worked out by that company, proves indeed the *practicability*, but not the *remunerativeness* of the undertaking. The latter, I believe, is mainly owing to the enormous expenses imposed on the promoters by vexatious opposition, and the consequent exhaustion of their funds, which were thus rendered insufficient to carry out their scheme on such a broad scale as would give an adequate return for so much sunken capital; but, so far as it goes, it undoubtedly accomplishes the grand desideratum, of carrying off the foul water from the river, and applying it to fertilize the land. I am induced to refer to this case more particularly as it appears that another company is now proposed, who hold out the expectation that these objects can be effected with profit to the adventurers, and thereby the public will be saved from all charge. This, I feel assured, is too flattering a prospect to be realized; and even to entertain it now will only tend to divert the public attention from the actual requirements of the case, and still further to retard their accomplishment.

The most obvious objections are the enormous expense of carrying deep tunnels along the whole length of the metropolis, with the numerous intercepting sewers and branches to collect the drainage into them, and their liability to silt up and become quite choked, having only an artificial current obtained by pumping, which cannot carry off the heavier matters that will be washed into them. The difficulty or impracticability of efficient cleansing and repair. After all, it appears that the foul contents may be thrown into the river; and though the pollution might not extend to the inhabitants of *Westminster*, yet the consequences must be more or less injurious to many populous districts, in proportion as they approximate to the noxious source. But the projectors say we intend to *manufacture* the sewage into guano: doubtless this might be done, but will it *pay?* And has not the experiment been already tried and proved a failure. Then as to *distributing* the fluid over the country (which has been proved to be the only efficacious and economical mode of dealing with it), such an attempt would be rendered almost abortive by the concentration of the whole at *one spot;* so that in order to embrace an adequate scope for distribution, the cost of transmission will be enhanced beyond what the manure would be worth, and consequently more than the consumers could afford to pay.

I think it must be evident from this general view that these elaborate and costly plans, with their concentrated termini, must certainly fail to accomplish the great object desired; either in a public point of view, or as regards commercial enterprise. I am, therefore, induced to offer some suggestions of a more limited nature, by which I feel assured that the great end might be attained by a combined operation of public and private means, without embarking in any great outlay at one time, and thus avoiding any large risk.

Presuming that the application of the sewage to fertilize the land is one very important object, it is evident that the shorter and more direct the line of transmission, the cheaper it will be supplied, and the more readily the nuisance will be removed; therefore, instead of conveying the whole to one spot, the object should be to throw it off in radiating lines, from all points of the metropolis where it can be most conveniently collected, taking the most direct courses along the principal roads, say to a distance of 10 miles or more, according to the nature and requirements of the country. The pumping stations to be planted at or near the mouths of the principal sewers, with branches or intercepting conduits to collect the whole drainage of the neighbourhood into the well.

The public may be well content to bear the expense of these stations, with the main pipes and the engine power to pump away the fluid, *which is their main object*, as it will be much less than in the plans alluded to; for it will not involve any material alterations in the arrangement or construction of the existing sewers and drains, and when the foul fluid is thus conveyed into the rural districts, there can be no doubt that associations will be readily formed (with the facilities and inducements to be afforded them) to undertake the distribution of it for their own and their neighbours' benefit, to be paid for at a very moderate rate, which, after a sufficient return to the adventurers, might go towards reimbursing the public for their outlay. Even if no such reimbursement should be realised, the public will have effected their object, and at a moderate expense; but from the experience of the Sewage Manure Company, it would appear that the operation might be rendered remunerative, both to the adventurers and the public: inasmuch as all the great charges which have crippled that company will in this case be avoided.

In order to carry this scheme into effect, a general Act should be passed, combining all the requisite powers for local and general purposes, by which the country associations might be severally incorporated without expense, so that their funds may be wholly devoted to providing the distributing pipes and apparatus, with the necessary staff for working and management.

One great advantage of this plan, as compared with the gigantic schemes before alluded to, is, that from its nature it is so arranged as to admit of being carried out progressively, taking up one branch line at a time, the outlay on which will be comparatively small, giving the benefit of experience in the subsequent execution of others, and thus (as already remarked) avoiding any great risk.

The general result will be, that the great *sanitary* object will be attained at a very moderate expense to the public; and the *economical* object, viz., the preventing the annual waste of nearly a million's worth of valuable material, will be effected by private capital and enterprise. Thus these two great ends will be attained, by the joint operation of public and private means, with much greater advantage than either of them can be accomplished separately. CIVIS.

EPITAPHS AND THEIR REFORM.

As your readers seem to be interested in this matter I subjoin you a few remarks on the same with illustrations. The true character of an epitaph is not to cast ridicule, and to provoke the smile of the passer-by, as in the following, copied from a tomb in a country churchyard in Cheshire:—

"Here lies W. W.
Who never more will trouble you, trouble you."

And another from a stone in the beautiful yard of the picturesque village of Gawsworth:—

"Reader, take notice, that on the 12th of February, 1760, Thos. Corbishley, a brave veteran dragoon, here went into his quarters, and remember that when the trumpet calls he'll out and march again."

Nor yet ought it to be so much that of eulogy as instanced in the two following inscriptions from tablets in the cathedral yard of Glasgow, A.D. 1616:—

"Yee gazers on this trophy of a tombe
Send out ane grone
For want of her once born of earth
And now lies in earth's wombe,
Liv'd long a virgin,
Then a spotless wife, here lies enclosed
Man's grief, earth's loss, friend's pain,
Religion's lamp, virtue's light, heaven's gain."

Also the following, which is far better than the last:—

"He lived—nor made himself a single foe—
He died—nor left an enemy below."

But its purport ought to be, and often is, that of leading the listless wanderer (and who that has an hour to spare does not like a stroll through the old churchyard) to think of the scenes around him, and to reflect how soon he may be called to join those who lie there. In conclusion I give you two which are more to my taste, and which speak volumes.

The one from a stone in St. Mary's churchyard, in Stockport:—

"As you are now,
So once was I:
As I am now,
So you must be:
Then remember
That you must die."

The other from a head-stone in that beautiful cemetery of Liverpool, peculiar in the solemnity of its solitude amidst all the bustling scenes of life:—

"What her character was will be known at the day of judgment. Reader, think what thine own will be."

M. B. NEWTON.

MR. EDITOR,—You are doing good by again directing attention to the impropriety of many of the epitaphs which disfigure our churchyards. I send you one from St. Mary's, Islington, which, although it has no evil in it, is wanting in the dignity, earnestness, and solemnity which should mark these compositions:—

"Art thou dead, Thomas?" "Yes, and here I lie."
"Dost thou live, Thomas?" "Yes, with Christ on high.
I lived to die, and died to live on high,
With God and Christ to all eternity."

Will you let me say here how much I liked your few words about flowers. Every artist should love flowers—study flowers. Allan Cunningham has half-a-dozen charming lines upon them:—

"There is a lesson in each flower—
A story in each stream and bower:
On ev'ry herb on which we tread
Are written words which, rightly read,
Will draw us from earth's fragrant sod
To hope, and holiness, and God."

MONS EXIMIUS.

NON-LIABILITY TO THE HOUSE TAX OF DWELLINGS FOR THE LABOURING CLASSES,

WHEN BUILT IN BLOCKS, WITH DISTINCT ACCESS FROM THE OPEN AIR TO EACH TENEMENT.

THE Commissioners of Assessed Taxes for the division of St. Giles-in-the-Fields and St. George's, Bloomsbury, having confirmed an assessment of window-duty, at the rate of 55*l.* 3s. 6d. per annum, made by their surveyor on the model houses built by the Society for improving the Condition of the Labouring Classes, in Streatham-street, Bloomsbury, an appeal was made against the same, on the ground that the building is not one dwelling-house, but that the tenements are distinct and separate dwellings, each having its own outer door, and the only access to them being by galleries or corridors, open to the air, and approached by an open staircase, which is not connected with the separate tenements otherwise than as a roadway to the galleries; that each set of rooms has not more than five windows; that the buildings have been constructed as models of dwellings for the labouring classes, in localities where it is of the utmost importance, from the very high price of land, to economise space, and at the same time to make them separate tenements, and, as such, not liable to the payment of the window-tax.

This appeal made to her Majesty's judges having been considered by them, their opinion has been given that the assessment was wrong, and the amount of the assessment paid by the society is to be repaid forthwith.

The importance of this decision, since the window-tax has been repealed, is, that it must be considered conclusive as to the non-liability to the house tax of dwellings for the labouring classes similarly constructed to those in Streatham-street. It has been apprehended that this tax would bear heavily on all piles of model houses for the labouring classes, even if built on the small scale of those exhibited by H. R. H. Prince Albert at the Great Exhibition: they will now of course be exempt, as their arrangement is similar in principle to these Streatham-street houses.

FOREIGN ARCHITECTURAL AND ARTISTICAL INTELLIGENCE.

National Society of the Antiquaries of France.—This society held its anniversary meeting on the 9th inst., when Messrs. J. H. Vincent, de Lasterey, &c., were elected officers for the ensuing year. Amongst the *foreign corresponding associates* nominated are Messrs. Thomas Wright, of London; Thiersch, of Munich; Zumpft, of Berlin; Delgado, Madrid; Sacchi and Marchi, Rome.

The Château of Ham.—This now noted building was erected in its present state by Odon IV. in 1216, on the place of a castle dating probably from the time of the Romans. The principal tower of this bastille is called "La Tour du Connetable de St. Pol." For the last *thousand* years this castle has served as a state prison, and some of its memorable inhabitants were Charles the Simple, king of France, in 923; Louis XI. king of France, in 1470; Mirabeau, 1782, &c. Its external appearance is quite in keeping with the mediæval period in which it was erected.

Completion and Systematisation of the Telegraphic Lines in France.—The French government have decided on the *completion* of their telegraphic wires not only along the lines of railways, but also on the ordinary roads, so as to make *all* the territory of the republic participate in this new system of communication. Up to the present time *nine* great telegraphic lines have been either completed or are in course of construction.

*The Capitol at Washington.**—"The loss of the library is a catastrophe, as far as America is concerned,—perhaps even so concerning the literature of the world. It is not generally known, that this establishment entertained especial agents in the principal towns of Europe. One of these was our consul, O. Rich, in London, who, for several years past, had purchased books to the amount of 1,000*l.* every year—a large sum to be expended, especially in cheap German and French works! But Mr. Rich went further, and had, a few years before his death, purchased the famous *Bibliotheca Americana* of M. Ternaux, of Paris—a collection unmatched for the completeness and rarity of books of that especial department. Much of it was purchased through Baron Humboldt for the Royal Library of Berlin; another portion went to the collection of the capitol. If this has been burnt, irretrievable loss has been sustained. One thing is certain, that our present luxuriousness (*Verweichligung*), and the construction of our large buildings, are irreconcileable with their safety. A hundred years ago the capitol would have had a number of chimneys—and there the matter rested. Now we must have a temperate temperature all over the building. Hence pipes and flues, and warm air apparatus, &c. Such, however, seems, as their last catastrophe also proves, incompatible with the use of any particle of wood in the construction—an important theme for modern builders."

* From the *Weser Zeitung*—Correspondent from New York.

RECOVERY OF ARCHITECTS' CHARGES.

IN the case of *Abraham* v. *Wyld*, tried some time since, plaintiff, who was the defendant's architect, brought an action to recover 492*l.*, for designing, making estimates for, and superintending the erection of the building recently erected in the area of Leicester-square, for exhibiting the defendant's "Model of the Earth."

The plaintiff, by his particulars, amongst other things, claimed 5*l.* per cent. on the actual outlay, which was computed at 5,500*l.*, and 2½ per cent. upon buildings which had been contemplated, but not carried out.

It appeared, from the statement of the plaintiff's case, that the defendant first applied to Mr. Welsh to supply him with the necessary drawings, &c. This Mr. Welsh did, and proceeded to carry them out, upon the understanding that the building was not to cost more than 1,500*l.* The contract was, however, ultimately taken by Mr. Myers, at 1,888*l.*

In the first instance the plaintiff assisted as a friend, but ultimately Mr. Welsh gave up the matter, and defendant retained the plaintiff as the sole architect, who, with some slight modifications, carried out Welsh's plans, but made a fresh set of drawings: he also superintended the erection of the present building. The plaintiff also designed buildings to cover the whole internal area of the square. The side buildings the defendant proposed to let as theatres; and the plaintiff estimated that the whole of these buildings would cost 11,500*l.*

Edward Welsh proved the employment of the plaintiff; in cross-examination said,—My instructions were not to exceed 1,500*l.*; my commission was calculated on 1,888*l.* which included my charge for all the drawings. I never contemplated the wall surrounding the building; it is of no use to the globe, and is a costly work. My charge was half the usual one. The commission is calculated on the actual cost, notwithstanding the architect is out by 150*l.* per cent. in his estimate. (The learned judge here interfered, and said it was immaterial what the usage of the Profession was as to excess, for the *law* would not sanction an architect's charges of commission upon an excess in the amount of an estimate *arising from incompetence*).

The plaintiff.—I am an architect, carrying on my profession in Great George-street, Westminster. I am the projector, &c. of Victoria-street, Westminster. I was informed by the defendant that he was about to carry out a scientific work, and he showed me the models. I afterwards saw Welsh, and was asked by both to give my opinion. I refused at first, but afterwards gave Welsh a design for a truss which I thought necessary. I furnished it gratuitously. I heard no more of the matter until the defendant informed me he was in a difficulty with Welsh, who could not carry on the work rapidly enough. I said I could not interfere unless I was appointed the consulting architect; this was done by letter (which was read). Welsh afterwards abandoned the work on payment of a sum of money. The business was much pressed upon me. There were to be four theatres, one at each angle; the work was to be done quickly, to cover the whole square, and to proceed so rapidly as to forestall an injunction by the inhabitants of the square. I afterwards made drawings and plans, and prepared the contract, but the haste was so pressing, that I had not time to take out the quantities, so that a schedule of prices was affixed to the specification. A resistance was made by the occupants of the square, and the scheme was partly abandoned. The wall was necessary according to the requirements of the Metropolitan Buildings Act, the theatres being then in contemplation. I have all the drawings for the larger buildings, with an estimate for all, which amounts to 7,000*l.*

At this period of the examination, the defendant's counsel interposed, and said that it might save some trouble if he at this time stated the defendant's points of defence, which were shortly—1st. That the original contract was 2,000*l.*, and that by reason of alterations, &c., it cost 5,500*l.*; 2nd. That no proper working drawings were supplied; 3rd. That no instructions were given for the drawings of the theatres, &c.; 4th. That there was no adequate superintendence by the plaintiff; and, 5th. That certain separate items in the plaintiff's bill of particulars were included in the commission.

In cross-examination plaintiff said—I thought Welsh's plan could be carried out with an addition of 250*l.* The defendant said he would lay out only 2,000*l.*, whereupon I refused to have any thing more to do with the matter. The casing of the globe was of wet timber. Timber always shrinks from plaster. Attended generally three or four times a day, and sometimes up to twelve o'clock at night.

Mrs. Parkes, proprietor of the Panorama of Hindostan, in Baker-street Bazaar, showed she was in treaty for one of the theatres contemplated.

The plaintiff was here further examined, and he stated:—It is a rule among architects that they shall draw on their own account, when the builder draws an instalment; this is, however, seldom pressed. The usual course of practice is, that the quantities are taken out by a competent person for the builder to contract by. The architect does not pay the cost, but the client. The contract in this instance, however, was special, as the defendant employed his own surveyor and an umpire to settle differences between surveyors. Ordinarily, however, a surveyor is not appointed besides the architect.

Mr. Myers.—I am a builder. I made a tender for the defendant's building in Leicester-square. I entered into a contract (contract read) for 2,000*l.* which does not include the whole works; they were to be determined by a schedule of prices. I believe the actual amount will be a little over 6,000*l.* I have been paid 1,500*l.*

Clerks of the plaintiff gave evidence that they attended.

Josiah Hunt.—I am a surveyor. I took out quantities on behalf of Myers. Lansdowne is defendant's surveyor. The amount will come out somewhere about 5,500*l.* The globe is cracked, I have heard. The roof lets water because of broken slates. The work is executed in the very best manner.

The plaintiff then called the two following witnesses to prove that the plaintiff claimed the usual charges.

Mr. Porter, architect, said,—The customary and proper charge is 5*l.* per cent. upon the 5,500*l.* It is the lowest that could possibly be made for such work. Two-and-a-half per cent. is a fair charge upon abandoned plans. The 5*l.* per cent. includes superintendence. The two-and-a-half per cent. does not.

Cross-examined.—The two-and-a-half per cent. includes estimate. It is usual to charge upon the extras—such is the established practice.

Mr. Donaldson was called, and he corroborated the preceding witness.

The plaintiff's case having been concluded, Mr. Phinn, on behalf of the defendant, moved that the plaintiff be nonsuited. His grounds were, that the particulars were for commission, which, according to the usage of the profession, was not payable until the amount of all expended moneys had been ascertained, which was not yet done, and that the money paid into Court amply covered all the contemplated works which were not carried out. Mr. Justice Erle, however, said that the evidence was capable of another construction, and that he should leave alternative propositions to the jury.

Mr. Phinn, when he addressed the jury on behalf of the defendant, urged upon them that the defendant was justified in bringing this matter before a jury, for although the subject of the remuneration of architects had often been discussed, yet the principle was to some extent unjustifiable. That up to the present time it has never been ascertained what is to be paid to the plaintiff, as the surveyors have not yet agreed upon the amount to be paid to Myers. He said that the roof admitted water, that the galleries oscillated in a fearful manner, that the joists were not of sound materials, and that, because of the consequent cracking of the plaster,

rivers appeared twice as wide as they should be; and the Isthmus of Panama had the appearance of being cut through, anticipating that desirable result by some years; the same remark was equally applicable to the Isthmus of Suez.

Mr. William Hosking.—I am one of the official referees. I refused to let the building be opened until it was strengthened. I pointed out the defects, which were the projecting floors of the galleries; they were not secure enough; they were of defective construction; they were afterwards strengthened.

The defendant (Mr. Wyld) said, all my instructions to the plaintiff had as their basis the first contract with Myers, dated the 5th of March, 1851; and also that the works should not cost 100*l.* more than the amount of that contract, which was 1,888*l.* Myers never informed me the cost would exceed 2,000*l.* He, however, said the corridor would be very expensive. I stipulated that the building was to be given up to the modellers by the 29th of March, and they could not get to work till April. I did not order any plans or drawings. The only drawings I have seen are five. Never saw drawings of the interior of the projected plan; in fact, I did not know, until I saw the particulars of demand in the action, that some of the drawings were made; a few came in on the 29th May. The surface of the model is very much cracked. The rain pours in through the roof. The handrail was obliged to be braced, and all the drains were found to be defective, and stopped.

Thomas Holland, carpenter, gave his opinion that some of the work was defective.

Mr. Horatio Miller considered the plaintiff to be greatly to blame for the delay.

Chester Lansdowne deposed that the accounts were not yet completed between him and Mr. Hunt, the surveyor of Myers. That the galleries caused a feeling of sea sickness, and that the view to be obtained from them was far from satisfactory. In cross-examination, said, I think from my survey that the cost of the building will be about 5,000*l.*

The jury returned a verdict for the plaintiff. Damages, 75*l.*, beyond the amount paid into Court, namely, 200*l.* The plaintiff has, therefore, recovered, in the whole, 275*l.* The action was brought for 492*l.*

STUDY OF ART IN ENGLAND.

To advance architecture it is necessary to multiply the critics; for if architects knew that there were chiels among them taking notes, and fully competent to judge of their works, there would be a great stimulus to exertion. Though the minds of the generality of English gentlemen of the present generation are well-informed, there are few of them who can draw a straight line: until lately drawing was not taught at the great public schools, and even now at Harrow, where there are nearly four hundred youths, scions of some of the best families in England, the drawing-master has not more than about forty pupils: at Eton, I believe, the per centage is still lower. No blame is to be attached to the directors of these establishments: the fault lies with the parents, who in an enlightened age are not yet sensible of the value of the accomplishment. It is often pitiable to hear the remarks on works of art hazarded by persons of elevated stations in life. No nation is more prone to travel than the English, yet few of them seem to say,—

> "Quanto mi giovará mostrare altrui
> Le novita vedute, edire io fui:"

if reminiscences are brought back, they are from the print-shop.

When it is suggested to a parent how desirable it is to educate the hand and the eye, the frequent answer is, "My son has no talent for drawing." Of course it is not to be expected that every body's son is to be a Raphael, but many a boy would, in the mechanical part at least, make progress and cultivate his taste if he were allowed to try. T. R. Y.

FIXING BALCONIES.—Two serious accidents having occurred in the neighbourhood of the North-road, Hoxton, one to a painter, the other to a female, in consequence of the falling of balconies, will you do me the favour of calling attention to the subject through your Journal? A few inches of straight iron inserted into the brickwork is altogether insufficient for their security. I can see no really secure method but having arms carried through the walls, and fastened to a plate or bar inside by screw.—J. H.

Books.

A Dictionary of Greek and Roman Geography. By various writers. Edited by WILLIAM SMITH, LL.D., Editor of the Dictionaries of "Greek and Roman Antiquities" and "Biography and Mythology." In Quarterly Parts, of 1 Vol. 8vo. Illustrated with numerous engravings on wood. Part I. Taylor, Walton, and Maberly, Upper Gower-street; and Murray, Albemarle-street. 1st January, 1852.

THE nature of this valuable book is sufficiently explained by its title, and by the dictionaries of "Greek and Roman Antiquities" and of "Greek and Roman Biography and Mythology," to which it will form a companion, written principally by the same contributors. Notwithstanding its title, it will be in reality a Dictionary of Ancient Geography in general, including even scriptural names, and as such cannot but be highly acceptable as a desideratum, from its comprehensiveness as well as its accuracy. The results of the discoveries of modern travellers, as well as of the researches of modern scholars, will be embodied by the editor in this work, which is not merely confined to a barren description of the geography of countries and of the sites of places, but, besides the political history of these, will trace, as far as possible, the history of the more important buildings of the cities, and give an account of their present condition, wherever they still exist, with plans and illustrations; so that, if carried out, as we have no doubt it will be, in all respects, up to the mark of the first part, now issued, such a work specially merits the patronage of the professional and other readers of THE BUILDER. A "Historical Atlas of Ancient Geography," to be issued at the close of the work, will with it complete the series of classical dictionaries, which will form in all a comprehensive and invaluable "Encyclopædia of Classical Antiquity."

Hydraulic Tables, to aid the Calculation of Water and Mill Power, Water Supply, and Drainage of Towns, &c.: with Properties and Strength of Materials, useful Numbers, and Logarithms; also Tide Tables, &c. By Nathaniel BEARDMORE, C.E., F.G.S., &c. Waterlow, Westminster; and Weale, Holborn. 1852.

MR. BEARDMORE'S very useful tables have not only reached a second edition, but have assumed a new and extended form, so as now to constitute a more complete handbook for engineers in matters relating to hydraulics and hydro-dynamics.

One-half of the work consists of remarks on the use of the tables, so that these latter are not only useful in themselves to experienced engineers, but are completely laid open to the tyro in hydraulic engineering. The remarks, however, are neither limited nor intended to be limited to the use of those seeking instruction in this science, but contain a large mass of important local and other facts, and valuable experience. The work also contains several useful charts and maps, and an appendix. Among the tables will be found calculations as to sluices, weirs, arterial drains, circular and egg-shaped culverts, pipes under pressure, friction of bends bridges and pipes, motion and resistance of water and air, value of water power and steam power, weight of pipes, rainfall and flood discharges, gradients, weights and measures, strength of metals, marine surveying, annuities, &c., &c.

The Claims of Science, especially as founded in its Relations to Human Nature. A Lecture delivered in Queen's College, Cork. By GEORGE BOOLE, Professor of Mathematics and Dean of the Faculty of Sciences. Taylor, Walton, and Maberly, Upper Gower-street, London. 1851.

THE purpose of this little pamphlet is to endeavour to form an intelligent conception of what is really implied in the pursuit of science, of the spirit which that pursuit demands, and of the ends to which it points. And we are persuaded that, notwithstanding we have passed the Platonic and Aristotelian era of science, and reached—shall we say transcended—the Baconian, many who boast of their acquisitions, and imagine themselves highly scientific, would be none the worse of a good *lecture* on this subject. The great merit of Bacon consisted in his bringing men back to facts as the materials of science; but many have since, in consequence, gone farther, and mistaken the mere investigation or research into facts for science itself. The prevailing error since Bacon's time is to grovel continually amongst mere facts, without rearing on these facts that goodly, well-proportioned, and truthful as beautiful, superstructure, which alone is true science;—just as, before the time of Bacon, the prevailing error was to float continually in the clouds of speculation without establishing or fixing the "baseless fabric of a vision" on those facts on which alone true science can be reared. It is but too commonly imagined that Bacon was a great fact-monger, who maintained that science merely consisted of a body of facts, whereas he regarded these as but the bricks and stones with which the grand superstructure and design of science was to be built; and he even complained of the hardship that he, an architect and a builder in science, was obliged, from the paucity of facts in his time, to collect these himself, like a mere hodman, while he ought to have had the men of facts as his servants, seeking and finding, fetching and collecting, these, the necessary materials, with which to build up science, or, even, as in his case, to exemplify its principles, and to lay its foundations.

False ideas, such as these, of our plodding, useful hodmen and factmongers of modern times, would be corrected, and overweening vanity a little mortified, by a studious perusal of the lecture under notice.

Annals of the Society of Antiquaries of the Rhine Lands (Jahrbücher, &c.). Bonn, 1851. Part XVII.

THE present number contains a chorographic essay, by Professor Ritter, of Bonn, "On the Origin of the three oldest Rhine Cities, Mayence, Bonn, and Cöln." The professor has collected here all the passages of classic writers relating to the origin of these cities, leading to interesting and new results. Dr. Schneider's essay "On the Roman military Road on the left Bank of the Mosel, from Trier to Metz," demonstrates, from autoptic research and numerous ruins, a road *not marked* on the Peutingerian table, which has only that of the right bank. Dr. Owerbeck's paper "On two bronze Statuettes," describes and depicts the figure of a Zeus Lykoios, the wolf's-skinned Zeus, a rarity amongst the many types of the Greek chief god. The memoir "On the Representations on Roman Coins during and shortly subsequent to the Introduction of Christianity," exhibits the curious fact, that the open assumption of Christianity by Constantine did not change the polytheistic representations on Roman coins, and that even *ten* years afterwards, Zeus and the Sun-god adorned the reverses of this Emperor's coins, and tangibly Christian emblems did not appear before the foundation of Constantinople.

Architectural Publication Society. Part III. for 1850—51.

THE part just now published contains an article by Mr. Healy on Drying Closets, illustrated with two engraved plates and nine woodcuts; a coloured plate in illustration of "Loggia" (from the Palazzo del Tè, Mantua); a plate of circular windows; and the remainder of the list of terms for the Cyclopædia. In the article on Drying Closets the writer has wisely availed himself to a considerable extent of the papers on the subject which appeared in our pages some time ago.

Plain Advice to Landlords and Tenants, including the Law of Distress. A New Edition. London: H. Washbourne.

THIS seems to be a fair abstract of the law on a subject in which most persons are interested, and may be usefully consulted.

The Literary Almanac. J. P. Edwards, Ludgate-hill. 1852.

A GOOD intention, which will doubtless be better carried out next year. The list of publications, showing their *circulation*, is erroneous, and only calculated to mislead. It would seem to be founded on the Stamp-office returns: in our case, and that of others given, only a very small portion of the issue is stamped for post, and the statement, therefore, is altogether wrong.

Miscellanea.

THE RENT GUARANTEE SOCIETY.—The first ordinary general meeting of this society was held at the offices in Charlotte-row, Mansion-house, when the first annual report of the directors was read, from which it appeared that very favourable progress had been made, the income already clearing the expenses, with a prospect of a very extensive business in rents, tithes, &c. In only two cases, it was stated, had law proceedings to be resorted to, —one in which gross dishonesty had been shown on the part of a tenant, and the other at the special request of a landlord himself. Proposals of upwards of 46,000*l.* annual income (representing nearly a million of property) had been submitted for collection or assurance. Only 3,237 out of 10,000 shares had hitherto been issued, but it was now proposed to increase the issue to parties likely to promote the interests of the society. The report was unanimously adopted, and interest at the rate of 5 per cent. per annum on the paid-up capital was ordered to be paid to the shareholders.

CHARCOAL IRON.—A Belgian professes to produce iron by the use of charcoal as fuel, at a price 25 per cent. under what it can be supplied for at present in this country. The superiority of iron smelted by charcoal over that obtained by the use of any other fuel is well known, and for the manufacture of steel such iron is peculiarly adapted. The inventor of this peculiar process is confident that it will prove of immense importance to the British Empire, and particularly to the railway interest,—iron so manufactured being more lasting than the ordinary kind, and less liable to lamination.

RAILWAY JOTTINGS.—An earth-slip lately occurred on the Great Northern works, at the deepest part of a cutting near the bridge at Spittle-gate-hill foot, Lincolnshire. It was reported that 1,000 tons of earth had fallen. ——In the Bankruptcy Court was lately heard the rule to show cause why Mr. Charles Blatchley, a lieutenant in the Royal Navy, and resident engineer of the Oxford, Worcester, and Wolverhampton Railway, at Mickleton Tunnel (Chipping Camden), should not be committed for contempt of Court, in rescuing from Mr. Hamber, the messenger, certain plant, engines, cart horses, &c., the property of William Williams and Richard Mudge Marchant, the contractors for the tunnel, who had failed for between 80,000*l.* and 100,000*l.* It may be recollected that differences existed between the contractors and the company, and that the local magistrates interfered in the disturbances, and read the Riot Act to above 2,000 "navvies." The matters in dispute were then referred; but it was alleged that the company would not suffer the bankrupts to complete the contract, and a bankruptcy took place. Mr. Hamber seized the plant and stock on Nov. 29, at one o'clock in the morning. The servants of the company consulted with Messrs. Burchell and Parsons (their solicitors) and Mr. Brunel, who instructed them to retake possession, and they accordingly did so by force on Dec. 1, and set the labourers to work. The judge (Mr. Com. Goulburn) discharged the rule, and was of opinion, if any person had been guilty of contumacious conduct, it was Mr. Brunel, who had given very bad advice to his subordinate officer (Mr. Blatchley) in telling him not to apply to the Court.

GRUNDY'S WINTER EXHIBITION.—Mr. Grundy has again made a very interesting collection of water-colour drawings and sketches in oils, at his rooms in Regent-street, to which we invite our readers to pay an early visit.

ELECTRO-TELEGRAPHIC PROGRESS.—The British Electric Telegraph Company have commenced laying down their system of telegraphic communication, uniting Liverpool and Manchester, and the Yorkshire towns of Halifax, Bradford, Huddersfield, and Leeds, with Hartlepool, Stockton, Hull, and other north-eastern ports. The Magnetic Telegraph Company are said to have laid down their wires between Liverpool and Manchester (taking the line of the London and North-Western Railway, whilst the other new company go by the Lancashire and Yorkshire railway route, taking Bolton and Wigan on their way), and are supposed to be nearly ready for business. The latter company carry their wires under ground, whilst the British Electric Telegraph Company will have them above ground, something like the wires of the old company. Meanwhile, so far as the public are concerned, the advantages of competition are already felt in the reduction of terms by the old company, who some time since lowered their prices nearly one-half, charging for 20 words between Liverpool (or Manchester) and London 5s. instead of 8s. 6d. Between Liverpool and Manchester they have reduced their charges still more materially, conveying messages of 20 words now for a shilling instead of half-a-crown, as formerly. The distance from Manchester to Liverpool is over 30 miles. The old company therefore, as we warned them, have already been compelled to come to our suggested terms, after attempting to write us down as unreasonable in requiring what in this country they unflinchingly alleged to be impracticable. Better for them had they at once taken the advice which we gave, and which our daily contemporaries promulgated and enforced by their potent influence: all necessity and opening for new companies to share their business and their profits would have thus been timeously obviated. The public, however, have no reason to regret their blindness.——The Magnetic telegraph is being brought into use amongst the northern collieries.

LONGTON BRANCH SCHOOL OF DESIGN.—Mr. Hammersley, of the School of Design, Manchester, gave an instructive lecture, on 2nd instant, in the New Town Hall, Longton, on the "Fine Arts, especially as relating to the Staple Trade of the District." The lecturer, bespeaking the indulgence of the audience, gave a short history of his own rise, progress, and present position, as an encouragement to the younger portion of his hearers to study art upon right principles, with a view of cultivating a correct taste, and elevating the staple trade, which admits of great improvement in design and decoration. He then glanced at the state of the fine arts, as connected with manufactures on the continent of Europe, and gave an account of the School of Design at Lyons, which is conducted upon a large scale, having about eleven professors, who deliver lectures, and is supported by a local rate of a halfpenny in the pound on the rental. He strongly advocated the justice and advantage of a similar impost in the manufacturing districts of this country.

THE MARYLEBONE LITERARY INSTITUTION.—Mr. Thackeray has given four of his six lectures, on writers of the last century, including Swift, Congreve, Steele, Addison, Prior, Gay, and Pope. In the third lecture on the 19th, he sketched humourously the manners of society in the time of Addison and genial "Dicky Steele." On the 26th he will speak of Hogarth, and Smollett, and Fielding.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—The fortnightly meeting of this society was held on Wednesday 14th, Mr. H. P. Horner in the chair. Mr. William Brown, M.P. for the county, attended, and exhibited an ingenious stock lock of his own invention: the idea of its construction he had taken from the letter padlock. A lock of this description Mr. Brown had made twenty-five years ago, and it had been in use ever since, in Brown, Shipley, and Co.'s safe. The lock is constructed on a system of letters, admits of 350,090 changes, and is applicable to every purpose. Mr. Francis Horner read the paper for the evening, on the associations of taste.

ELECTRO-MAGNETIC MOTIVE POWER.—This power, it is said, is being tried in locomotives on the Paris and Lyons railway, and is reported to be quite successful even on the steepest gradient of the line. The smoothness of the wheels on the rail is said to have offered no hindrance to locomotion, as it was feared it would.——In a patent taken out in England by Mr. J. J. Greenhough for the inventor, Professor Page, of New York, has adopted the principle of hollow electro-magnetic coils, using a number of them in juxta position: they are formed of square copper wire, wound round a mandril, which when withdrawn forms a cylinder made up of sections, with about 1,500 yards of wire to each. They are all connected metallically, but are so arranged with the cut-off, or slide, that but three coils are charged at once, and one coil is being continually cut off behind the piston, as the current is applied to a fresh one in front, *in the direction in which the piston is moving.* This is the peculiar feature of the engine: it is a continuous electro-magnetic draught, aided by the secondary current pulling in the same direction. The magnet is a round mass of iron, placed free to move in the centre of the coils, and forming the piston.

DRAINAGE OF HAARLEM LAKE.—The drainage of the lake, begun in 1846, is likely, it is feared, to be delayed two or three years more, before the 50,000 acres covered can be laid bare. The engines have not been proof against accidents arising from the severe work they have had to perform. The boilers are leaky and out of order, and have been sent to Amsterdam for repairs, while several portions of the machinery have become unfit for service, and will have to be replaced. A storm has recently caused considerable injury to some of the dams, and great exertions were required to prevent the breaking in of the sea, and the consequent destruction of the labour of three or four years.

GASWORKS.—In the United Kingdom, says a contemporary, 855 cities and towns are supplied with gas. Twenty gasworks belong to municipal corporations, or commissioners, and thirty-three to private individuals. 151 companies possess Parliamentary powers, while 682 carry on their business without such powers(?). The capital invested is 12,300,000*l.*, and the quantity of gas annually manufactured exceeds twelve thousand millions of cubic feet.

VALUE OF LONDON SOOT.—In *London Labour and the London Poor*, we find the following statistics as to metropolitan soot:—

	Bushels of Soot per Annum.
53,840 houses, at a yearly rental above 50*l.* producing six bushels of soot each per annum	323,040
90,002 houses, at a yearly rental above 30*l.* and below 50*l.* producing five bushels of soot each per annum....	450,010
163,880 houses, at a yearly rental below 30*l.* producing two bushels of soot each per annum	327,760
Total number of bushels of soot annually produced throughout London	1,100,810

The price of soot per bushel is but 5d. and sometimes 4½d., but 5d. may be taken as an average. Now, 1,000,000 bushels of soot, at 5d., will be found to yield 20,833*l.* 6s. 8d. per annum.

BODY FOUND AT THE HOUSES OF PARLIAMENT.—Our readers will have observed by the daily papers that a body has been found in St. Stephen's Chapel,—not, however, imbedded in the wall behind the high altar as stated, but under the cill of a window in the wall on the north side of the altar. The walls forming part of the chapel built about 1398, it has been thought that the body was that of an abbot who died about the same time. We have every reason to believe, however, that it was of subsequent date, probably the end of the fifteenth century. Whether the body be entire, as has been stated, is not yet known, as it is enclosed in a sack fitting the shape, and probably sewn up behind. The arms are crossed, or at least the bones appear to have been so, and a floriated crook was found beside the remains.

POISONING BY CESSPOOL AND OTHER EXHALATIONS.—Two persons, a man and his wife, were lately found dead in their bed-room, in a house at Sheffield, and various conjectures arose as to the cause of death. *Post-mortem* examinations were made without avail, although the lungs and brain were found congested. It was afterwards discovered, however, that at the south end of the house, and about four yards distant, there is a cesspool, into which was thrown, about a week before, a mattress, on which a sick man had lain a long time. Some mischievous person had set it on fire, and it continued in a smouldering state all the week. Mrs. Hall, who was asthmatical, complained of the stench from the cesspool interrupting her breathing, and her husband covered over the smouldering mass with ashes. A heavy fall of rain formed a superficial layer into a concrete, so that the exhalations could no longer arise. The noxious steam consequently penetrated the foundation-wall of Hall's house, which was already decayed by the action of the feculent matter, and the fumes stole into the bed-room. It was a small low room, very imperfectly ventilated, the fire-place being closed by a fire-board. While the unconscious victims were quietly reposing, the room became filled with the noxious exhalation, which being strongly charged with sulphuretted hydrogen gas, destroyed their lives so subtlely as not to disturb their sleep. The olfactory nerves had been previously blunted by the abominable stench.

CHARING-CROSS HOSPITAL.—The annual report of the committee of this most useful and valuable hospital has just been issued for the year last past. Its importance to the building trades especially will be seen from the following extract as to cases of accident and emergency:—

	To 31st Dec. 1850	In 1851.	Total.
From falls off scaffolds, ladders, buildings, vessels, lofts, staircases, and windows; or down cellars, trap-doors, areas, &c. ..	2,320	728	3,048
The falling of excavated earth, buildings, chimneys, timbers, stones, heavy weights, &c.	880	93	973
Steam-engipes, mill-cogs, crane-tackle, and other machinery	285	78	363

In all, 2,238 cases of accident and emergency were treated during last year. The institution has lost a number of its best supporters by death during the year; but it is to be hoped their places will be more than supplied in the year that is opening. A special appeal is made for the completion of the hospital buildings, so as to admit of fifty additional beds in four invalid wards.

THE MARIONETTE THEATRE.—Science, and Terpsichore, who wildly succeeded her, have retired from what was the Adelaide Gallery, Strand, and yielded their places to the Momus or Melpomene, we know not which, of the Marionettes. What is a Marionette? asks a mere Englishman. The French dictionary answers him—a puppet. And these puppets are so ingeniously contrived to imitate the motions of humanity, and so well dressed up to the proprieties of the drama, that it is scarcely possible to avoid being amused by them. Considerable wit, too, is superadded to the brisk saltatorial and emotional action of these wooden bodies, though not blockheads. The theatre, moreover, is decorated with much taste and elegance.

EXETER DIOCESAN ARCHITECTURAL SOCIETY.—On the 8th, the usual quarterly meeting was held, the Rev. Canon Rogers in the chair. Papers were read by Mr. Furneaux, of Plymouth, and Mr. William Crabbe, of Exeter. The former gave an account of the rebuilding of the parish church of Yealmpton, under the direction of Mr. Butterfield; and the latter, a graphic historical description (illustrated by drawings by Mr. Ashworth, which have been chromolithed by Day, for the next part of transactions) of Bishop Bronescombe's monument in the Lady Chapel of the Cathedral.

PUBLIC BATHS AND WASH-HOUSES.—The committee for promoting the establishment of baths and washhouses for the labouring classes state that they are actively promoting the establishment of these institutions in all parts of the country, as well as abroad, by the distribution of plans and practical information. They add that in our smaller towns baths and wash-houses can be erected at a cost of 2,000*l*., 4,000*l*., or 8,000*l*., exclusive of charge for land. They publish returns for the year ending Christmas 1851, of which the following is an abstract:—

ESTABLISHMENTS	BATH DEPARTMENT. Number of Bathers.	Receipts. £	s.	d.	WASH-HOUSE DEPARTMENT. Number of Washers.	Receipts. £	s.	d.
METROPOLIS.								
The Model, Whitechapel...	156,310	2,143	7	8	43,462	531	1	2
St. Martin-in-the-fields	213,485	3,437	17	9	50,200	499	14	1
St. Marylebone	173,157	2,242	3	7	24,718	300	18	10
St. Margaret and St. John, Westminster	83,403	972	2	1	13,189	147	1	1
Greenwich	20,885	345	17	5	682	20	4	0
Totals.....	647,242	9,141	8	6	132,251	1,498	19	2
COUNTRY.								
Liverpool—								
Cornwallis-st.	86,899	1,283	12	1				
Paul-street ...	42,353	576	4	10	19,455	190	12	10
Hull	63,765	640	18	1	4,968	91	6	8
Bristol	43,373	547	19	11	5,746	62	11	1
Preston	24,515	244	12	10	2,179	27	19	4
Birmingham.....	78,646	1,015	11	9	908	26	14	8

METROPOLITAN SEWERS COMMISSION.—A special meeting was held on 21st inst. in Greek-street, when the resignation of Mr. Forster, the chief engineer to the commission, under somewhat curious circumstances, was announced. The reasons given for the resignation were, that the line of the Victoria-street sewer was not of the engineer's selection, and, on the contrary, had been carried out against his opinion; that he had met with frequent opposition on the part of one of the commissioners, Captain Vetch; that his best and most efficient assistant had been dismissed without sufficient reason; and, finally, that the exercise of his duties had brought on serious illness. The commissioners, on the ground of Mr. Forster's illness, determined to postpone acceptance of his resignation, in order that he might have an opportunity to give an explanation.

METROPOLITAN SANITARY ASSOCIATION.—The acting committee have resumed their sittings for the present session, at their office, 10, Craig's-court, Charing-cross. It is to be hoped they will receive such support as may enable them to act efficiently.

NEW PILE-DRIVING MACHINE.—The works under the superintendence of Mr. Rendel—the engineer—at the West India Docks, have been supplied with a new pile-driving machine. A pile 25 feet in length was driven into the ground by it in eight minutes: by the old process it would have taken three hours. The engine is capable of making from sixty to seventy strokes a minute. It will be at work for some months.

NEW WINDOW, KENSINGTON.—A stained glass window, by O'Connor, has, during the past week, been put up in St. Barnabas Church, Kensington, at a cost of 350*l*. It is a large perpendicular window of two stories of seven lights each. In the supermullions are the evangelistic symbols and figures of angels: the large lights contain single figures under rich canopies arranged as below:—

St. Philip	St. Matthew
St. James Minor	St. Andrew
St. Matthias	St. Peter
St. Barnabas	Our Lord in Glory seated holding orb and cup, his other hand raised in benediction
St. Jude	St. John
St. Simon	St. James, Major
St. Bartholemew	St. Thomas.

"DON'T CARE!"—Don't care is not always let off so easily as one would imagine. The man who does not care for others, who does not sympathise with and help them, is very often pursued, even in this life, with a just retribution. He does not care for the foul, pestilential air breathed by the inhabitants a few streets off; but the fever which has been bred there at length comes into his own household, and snatches away those whom he loves the dearest. He does not care for the criminality, ignorance, and poverty nursed there; but the burglar and the thief find him out in his seclusion. He does not care for pauperism; but the heavy poor-rates compel him to pay for it half-yearly. He does not care for politics—pooh, pooh! what has he to do with them? but lo! there is an income tax, or an assessed tax, or a war tax, and then he finds Don't Care is not such cheap policy after all. Don't Care was the man who was to blame for the well-known catastrophe, thus popularly related:—"For want of a nail the shoe was lost, for want of a shoe the horse was lost, and for want of a horse the man was lost."—*E. Cook's Journal.*

SWEEPING MACHINES.—In a recent number of THE BUILDER it is stated by "Clericus," that the sweeping machine for chimneys at present in use is totally useless in cases where there is any flexure of the flue. I do not know if you are acquinted with the sweeping machine used in some parts of Germany, which answers very well with the round chimneys introduced into most modern buildings. It consists of a rope, to one end of which is attached a stiff broom, in an inverted position, and under this a cannon ball. The boy goes on the roof of the building, and lets the rope with broom and weight attached to it down the chimney, and, by drawing it up and down, clears the flue effectually without being obliged to enter it. It is evident that the flexibility of the rope, and the weight attached to it, allow the broom to follow all the curvatures of the flue.—E. E.

THE BOSTON FIRE ALARMS.—Dr. W. F. Channing is stated, in *The Boston Almanack for* 1852, to have first published the application of the telegraph to fire alarms in 1845. This gentleman laid the details before the Boston City Government in March last, and 10,000*l*. were voted to carry the system into operation in June. The length of wires erected in the city is 49 miles. There are duplicate wires between every station. They are seldom broken, however. The circuits are tested hourly. The signal station is a small cast-iron box placed on the side of a building. Responsible persons in the immediate vicinity have the keys, and at an alarm of fire, the crank in the box is turned slowly round six times, and intelligence is thus conveyed to the City Building of the exact locality of the fire. In each church, connected with the alarm circuit, is machinery like the striking part of a clock, with a weight attached, and an electro-magnet, connected with the circuit. When the operator at the City Building receives intelligence from any signal station, he strikes, by means of the alarm circuit, on all of the bells at the same time, the numbers of strokes corresponding with the district from which the signal comes, and the firemen immediately know where they are wanted. The circuits of wire are so arranged that no alarm can be communicated except from the signal boxes, forty in number, placed throughout the city about 100 rods apart. An officer of the fire department can ascertain the number of the station in any district from which an alarm of fire proceeds, by going to any signal box and making the simplest signal. The operator at the central office will reply by counting out the number of the station, by means of the clicks of a little electro-magnet in the signal box at which the inquiry is made. The position of the fire would then be known within 50 rods. If a fire is soon extinguished the engineer sends to one of the signal boxes, and communicates the signal of "All out," which is, "*one, one-two,*"—"*one, one-two,*" to the central office, from whence the same signal is struck upon the alarm bells, and the engines in all parts of the city are enabled at once to turn back.

VENETIAN GLASS.—A new manufactory has been established at Venice, in which those processes that once rendered Venetian glass so celebrated are to be revived and combined with improvements suggested by modern science. The number of workmen it employs at present is 200.

[ADVERTISEMENT.]

TO BUILDERS.

BUILDERS, and those connected therewith, are dependant upon their own personal exertions for their subsistence. If health fails, they fall into distress; if they die, their families are unprovided for.

The uncertainty of their income often prevents them from making provision for infirmity, old age, or death, by the usual method of assurance.

To meet this difficulty, *The Law Property Assurance Society* has made the following arrangements for the benefit of the profession:—

1. It grants special policies of assurance, by which the assured, instead of being obliged to pay a fixed sum every year, or forfeit their policies, may pay any sum they please at any time according to their means, and for which a proportionate sum will be assured to them by their policy. By this means uncertainty of income is provided for, and no forfeiture for nonpayment ever takes place.

2. If the assurer in this office should find that the objects of his insurance after death are no longer required, he may convert his policy into an annuity for his own life.

3. On payment of a small annual sum during their own lives, husbands may secure annuities for their wives or daughters after their own decease.

4. On payment of a small sum annually, professional men may secure for themselves an annuity to commence on the decline of life, or earlier should they be at any time disabled by sickness or infirmity from pursuing their occupations.

Detailed prospectuses, forms of proposal, and every information will be immediately furnished on application to WILLIAM NEISON, Actuary and Secretary, 30, Essex-street, Strand, London.

TENDERS

For the New Chapel, Schools, Residences, &c., Winchester, Hants. Mr. W. F. Poulton, architect:—

	If Bath stone be used			instead of Caen.		
	£	s.	d.	£	s.	d.
Seal, Chelsea	3,575	0	0			
Fielder and Macklin, Winchester	3,150	0	0	3,100	0	0
Newman, ditto	2,965	0	0	2,907	0	0
Brown, ditto	2,945	0	0	2,885	0	0
Hellis, Alton	2,747	0	0			
Wells, Reading	2,645	0	0	2,595	0	0
Hendy, Portsmouth	2,516	17	0	2,462	17	0

Quantities furnished.

For new Workhouse, Westminster, Messrs. Hunt and Stephenson, Architects.

		Extra if floors fire-proof.
Thompson	£10,975	£277
Lucas	10,780	273
Lee	10,403	375
Glyn	10,326	461
Smith and Appleford	10,270	262
Hayward and Co.	10,180	300
Mansfield	10,131	359
Sisson and Co.	10,047	273
Holland	9,988	375
Kilk	9,964	336
Little	9,946	338
Piper and Co.	9,739	334
Hill, Whitechapel	9,592	277
Locke and Nesham	9,500	346
Pollock and Co.	9,485	275
Cooper	9,400	438
Carter	9,300	376
Curtis	8,973	461
Jay	8,640	248
Myers	8,360	230

For the Jolly Sailor Public House and two fourth-rate Houses adjoining, in the Back-road, Shadwell, Mr. H. Joll, architect:—

Whiting	£1,514
Sewell	1,475
Wood and Son	1,394
Wilson	1,387
Coventry	1,385
Hill	1,367
Bowley	1,345
Ashby and Co.	1,270
Watson	1,258
Dennison	1,255
Ennor	1,250
Tarrant	1,246
Tombs	1,146
Hovington	1,090

For Works at Limehouse:—

	Church.	School.	Parsonage.	Total.
	£	£	£	£
Lawrance	5,862	2,260	1,160	9,282
Higgs	5,820	2,620	1,350	9,790
Hollands	5,255	2,227	1,165	8,647
Locke and Nesham	4,980	2,181	1,150	8,311
Piper	4,950	2,175	1,120	8,245
Grimsdell	4,795	2,105	1,088	7,988

TO CORRESPONDENTS.

Architectural Exhibition.—We are asked to say that the two sketches for street architecture mentioned by us, erroneously attributed in the Catalogue to Mr. Fergusson, are by Mr. Chamberlain.——Also that Mr. Dunhill's market is to accommodate 6,000 beasts and 40,000 sheep, instead of the number named.

"H. B." (will see, on consideration, that for us to write replies to such inquiries is out of the question), "E. J.," "C. R. W.," "W. H. M." (we have no time to refer), "Constant Subscriber," "J. B.," Bloomsbury (the lines from an American paper sent for insertion are taken from THE BUILDER, where they appeared some time ago), "J. E." (declined with thanks), "Baron B." (ditto), "J. N.," "R. R. P." (look to the advertisement), "W. C.," "W. E." (under our mark), "J. H. S.," "E. A.," "M. M. D.," "C. C. N." (thanks), "W. B.," "J. H. C.," "C. F. D." (thanks), "R. R.," "R. W. A." (declined with thanks), "S. C." (shall appear), "Mr. D.," "F. & W.," "T. T.," "G. W." "W. C.," (the discrepancy mentioned between part of plan and elevation of the Silato certainly exists. The position of chimney appears to have been altered), "H. W.," "Sowerberry," "A. W. H.," "J. T.," "One of the Competitors," "T. A. Y.," "C. R. S.," "M. A. D.," "A Justice of the Peace," "R. C.," "C. G." (next week), "B. S.," "L. S." (shall hear from us), "R. S.," "J. B.," Pentonville, "*Pro-rata*," "I. B. W.," "W. W.," "T. H. W."

Several communications are unavoidably declined for want of space.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO SMITHS.

WANTED, a steady active Man as General SMITH; one who has been used to a foundry would be preferred.—Apply at the Commercial Iron Foundry, No. 8, Beech-street, Barbican.

WANTED, an efficient CLERK of WORKS, to superintend the erection of a Family Mansion in the Country.—Address, post-paid, stating the last and previous engagements, terms, &c., to O. Y., at Mr. Wilson's, Law Stationer, Charles-street, Middlesex Hospital.

TO GAS ENGINEERS.

WANTED, an experienced ENGINEER, of undoubted professional ability, to superintend the Laying of Street Mains and the Erection of a first-class Gas Works. He must be able to produce plans and specifications, and be thoroughly conversant with the manufacture of gas, and all the details connected with the construction of the most approved apparatus and machinery for works capable of distributing 200,000,000 during the year. Salary not less than 300*l.* per annum.—Apply by letter only (as personal applications or canvassing will render candidates ineligible) to the Directors of the Sheffield Gas Consumers' Company, 25, Norfolk-street, on or before the 5th day of February next. SAMUEL S. DEAKIN, Chairman.

Testimonials of unsuccessful candidates will be strictly preserved and returned.—Sheffield, Jan. 15, 1852.

TO ENGINEERS AND ARCHITECTS.

WANTED, by a Gentleman aged 24 (who has been upwards of six years in an Engineer's Office), a SITUATION as ASSISTANT in either of the above Offices. Satisfactory references will be given.—Address, stating salary given, to A. B. C., Office of "The Builder," York-street, Covent-garden.

TO BUILDERS.

WANTED to APPRENTICE, a YOUTH, aged 14, as an out-door apprentice, to a CARPENTER and JOINER, or a PLUMBER, or some respectable business; anything in the painting business objected to. West-end preferred, and premium must be moderate.—Address full particulars to Mr. SNELL, 43, Waverley-road, Harrow-road, Paddington.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, a Re-engagement as ASSISTANT. He has been accustomed to land and house surveying, levelling, and mapping, and also to getting out working, finished, and prespective drawings, and to the usual routine of an architect and surveyor's office. Terms moderate.—Address to Mr. HENRY BUTCHER, 19, Shrubland-road, Dalston.

WANTED, a SITUATION in a Builder's or Surveyor's Office, by a respectable Young Man, 27 years of age, who has been for a number of years in a House Measurer's Office in Glasgow, is a good penman, and quick at figures. A very moderate salary will be accepted, and security can be given if required.—Address H. M., Mrs. Mayer's, 10, Cardington-street, Hampstead-road.

TO SURVEYORS OR BUILDERS.

WANTED, a SITUATION, by a Young Man, who is thoroughly acquainted with practical building, can make fair and working drawings, write specifications, take out quantities, measure, estimate, and capable of generally conducting a business under the direction of the principal.—Address, J. B., at Mr. Lawrie's, Stationer, Highbury, Islington.

TO SMITHS, IRONMONGERS, AND OTHERS.

WANTED, by a Young Man of active business habits, a SITUATION as CLERK or SALESMAN, or in any similar capacity. He has had very extensive experience in the keeping of manufacturing books, workmen's books, and the charging of goods, having for the last nine years been engaged in one of the most extensive and distinguished manufactories in the city of London. First-rate references as to character, energy, &c.—Address (pre-paid) to D. G., 7, Gresham-street, City.

TO SMITHS, IRONMONGERS, BUILDERS, AND OTHERS.

WANTED, a RE-ENGAGEMENT as FOREMAN, by a person who has occupied that position for the last eight years, in one of the largest manufacturing ironmongers in London; is fully competent to give estimates for all kinds of work, being practically acquainted with the various kinds of close cooking stoves, steam boilers, hot water apparatus, also every description of iron work. Satisfactory references as to character, ability, &c.—Address to A. Z., care of Mr. Spong, 51, Chiswell-street, Finsbury.

TO TIMBER MERCHANTS.

WANTED, a SITUATION for a respectable Youth of Seventeen (for Two Years), in the ENGLISH and FOREIGN TIMBER TRADE.—Address, C. S. P., Post-office, Chelmsford.

TO BUILDERS AND MASONS.

WANTED, a SITUATION as working FOREMAN. Unexceptional reference can be given from his last employers. Address W. B., No. 4, Mallbery-street, Trafalgar-road, Greenwich.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a MAN, of 38 years, a SITUATION, of the above; no objection to take the three branches.—Address, J. M., No. 6, Boyton's-place, New Church-road, Camberwell.

TO CARPENTERS AND BUILDERS.

WANTED, by an experienced person, a SITUATION as SHOP or OUT-DOOR FOREMAN. Unexceptionable references can be given.—Address to A. B., 18, Percy-street, Tottenham-court-road.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

WANTED, by a Young Man, a Situation as CLERK and DRAUGHTSMAN. Can survey and measure up work, and keep accounts. First-rate testimonials can be given.—Address, E. R., Mr. Bird's, 5, Blomfield-street North, Dalston.

WANTED, a SITUATION as CLERK of WORKS, by a thorough practical and experienced person, who is an efficient measurer and draughtsman. Most respectable testimonials can be given.—Address, F. M., Watts's Coffee-house, Catherine-street, Strand.

WANTED, a SITUATION as BUILDER'S CLERK, by a person who has a practical knowledge of the business. He can draw plans, measure, estimate, and take out quantities; has had some years' experience in the office. References given.—Address, R. R., Mr. Billing's, 102, Tottenham-court-road.

TO ARCHITECTS, SURVEYORS, &c.

WANTED, EMPLOYMENT in Town or Country by a Young Man, a competent Draughtsman, and who has been generally used to the business of an Architect and Surveyor's Office.—For further information address E. C., No. 22, Commercial-road, Lambeth.

TO BUILDERS AND OTHERS.

WANTED, by a thorough practical Plumber, a SITUATION as FOREMAN, or to superintend Plumber's Work of large Jobs, having held similar situations the last twelve years. Good reference can be given.—Address, prepaid, to G. W., 30, Sidney-street, Mile-end-gate.

TO ARCHITECTS AND BUILDERS.

A YOUNG MAN, aged 22, is desirous of an ENGAGEMENT, either in town or country; he is a neat draughtsman, quick at figures, and writes a good hand. Salary moderate.—Address, R. E. R., General Post-office, Wolverhampton.

A YOUNG MAN (not a carpenter) would be found very useful to any party in the jobbing business, where an attentive and confidential man is required. Wages a second consideration, as regular employment is the Advertiser's object. Good reference given.—Direct, H. M., 43, Bedford-street, Strand.

TO ARCHITECTS AND SURVEYORS.

A YOUNG MAN, respectably connected, is desirous of an ENGAGEMENT as DRAUGHTSMAN and GENERAL ASSISTANT. If for a permanency, salary moderate; if not, according to requirements. Country not objected to. Most respectable references can be given.—Address M. B., 4, Church-street, Queen-street, Pimlico.

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